


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☒

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 922-36G1T		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML 22650		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	1812 FNL 1512 FEL	SWNE	36	9.0 S	22.0 E	S
<b>Top of Uppermost Producing Zone</b>	1812 FNL 1512 FEL	SWNE	36	9.0 S	22.0 E	S
<b>At Total Depth</b>	1812 FNL 1512 FEL	SWNE	36	9.0 S	22.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1512		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 203		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 720		<b>26. PROPOSED DEPTH</b> MD: 8600 TVD: 8600		
<b>27. ELEVATION - GROUND LEVEL</b> 4964		<b>28. BOND NUMBER</b> 22013542		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Kathy Schneebeck-Dulnoan	<b>TITLE</b> Staff Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6007
<b>DATE</b> 05/03/2009	<b>EMAIL</b> Kathy.SchneebeckDulnoan@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047503930000	<b>APPROVAL</b>  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	8600		
Pipe	Grade	Length	Weight			
	Grade I-80 LT&C	8600	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2175		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2175	36.0			



**NBU 922-36G1T**

Pad: NBU 922-36G

Surface: 1,812' FNL, 1,512' FEL (SW/4NE/4)

Sec. 36 T9S R22E

Uintah, Utah

Mineral Lease: ML22650

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,288'	
Birds Nest	1,463'	Water
Mahogany	1,975'	Water
Wasatch	4,209'	Gas
Mesaverde	6,499'	Gas
MVU2	7,494'	Gas
MVL1	8,050'	Gas
TD	8,600'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 8,600' TD, approximately equals 5,269 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,377 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

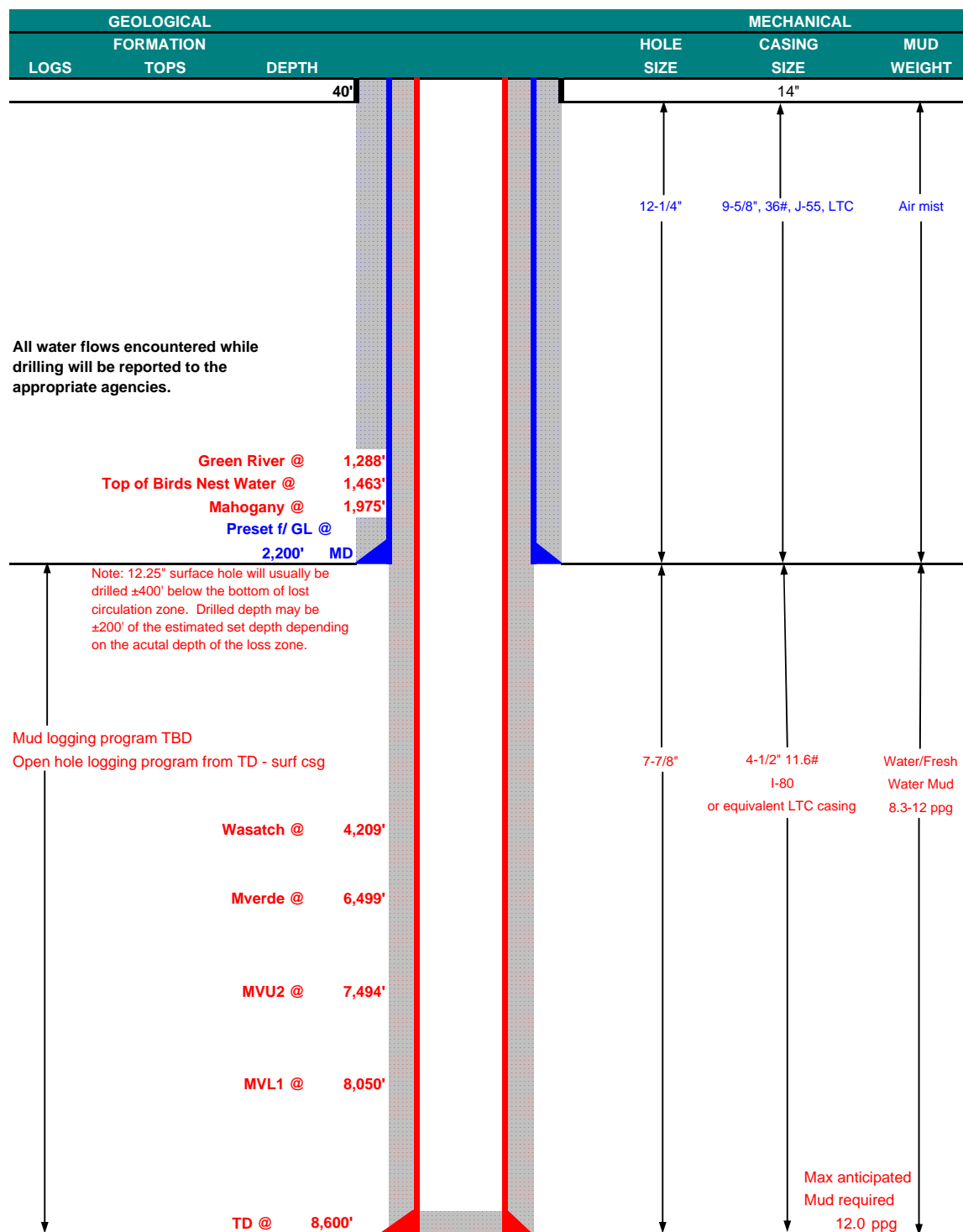
**10. Other Information:**

*Please refer to the attached Drilling Program.*



**KERR-McGEE OIL & GAS ONSHORE LP  
DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP				DATE	June 11, 2009		
WELL NAME	NBU 922-36G1T				TD	8,600' MD/TVD		
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	ELEVATION	4,964' GL KB 4,979'
SURFACE LOCATION	SW/4 NE/4	1,812' FNL	1,512' FEL	Sec 36	T 9S	R 22E	BHL	Straight Hole
	Latitude: 39.384298		Longitude: -109.383617		NAD 27			
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals). UDOGM (Surface). Tri-County Health Dept.							





## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2200	36.00	J-55	LTC	1.01*	1.96	5.72
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 8600	11.60	I-80	LTC	2.24	1.18	2.47

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.54

1) Max Anticipated Surf. Press.(MASP) (Surf Csg) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac grad x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**MASP 3,377 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.0 ppg)

0.61 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**MABHP 5,269 psi**

### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	215	60%	15.60	1.18
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele Premium cmt + 2% CaCl	380	0%	15.60	1.18
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	1,700'	Prem cmt + 16% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOC	190	35%	11.00	3.82
	TAIL	500	Premium cmt + 2% CaCl + 0.25 pps flocele	180	35%	15.60	1.18
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,700'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel ' + 1% Retarder	360	40%	11.00	3.38
	TAIL	4,900'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1200	40%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow spring centralizers.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Drop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.

Most rigs have PVT Systems for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

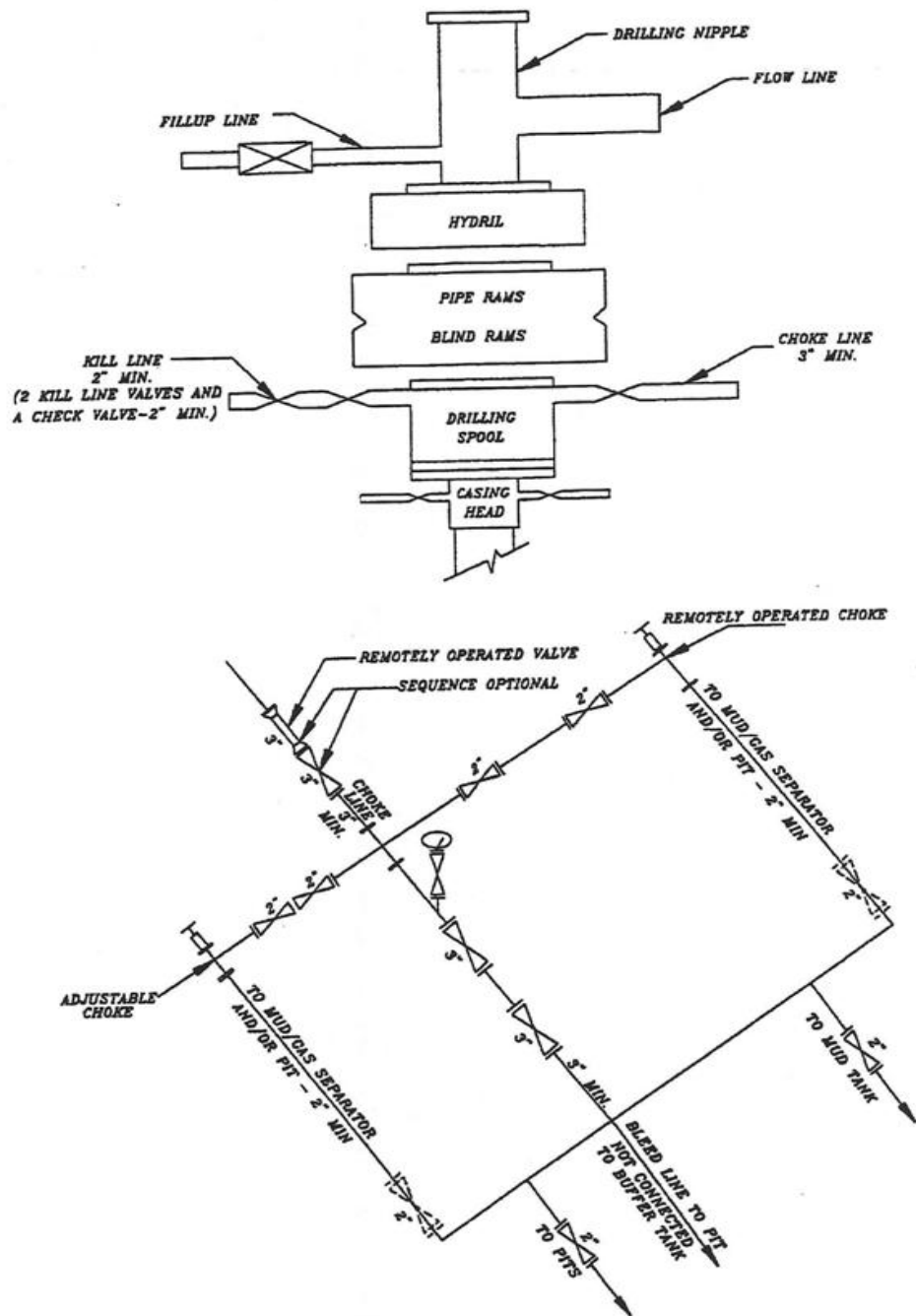
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

EXHIBIT A  
NBU 922-36G1T

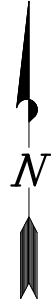


SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU 318–36E

BASIS OF BEARINGS IS THE EAST LINE OF THE NE 1/4 OF SECTION 36, T9S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°14'31"W.



### BOTTOM HOLE FOOTAGES

NBU 922–36A4BS  
980' FNL & 630' FEL

NBU 922–36H2AS  
1360' FNL & 700' FEL

NBU 922–36H2DS  
1720' FNL & 795' FEL

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
922–36A4BS	811'	889'
922–36H2AS	466'	799'
922–36H2DS	123'	696'

LATITUDE & LONGITUDE Bottom Hole – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
922–36A4BS	39°59'49.400" 39.997055°	109°22'52.179" 109.381161°
922–36H2AS	39°59'45.649" 39.996014°	109°22'53.062" 109.381406°
922–36H2DS	39°59'42.097" 39.995027°	109°22'54.267" 109.381741°

LATITUDE & LONGITUDE Bottom Hole – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
922–36A4BS	39°59'49.524" 39.997090°	109°22'49.728" 109.380480°
922–36H2AS	39°59'45.773" 39.996048°	109°22'50.612" 109.380725°
922–36H2DS	39°59'42.221" 39.995061°	109°22'51.816" 109.381060°

**NBU 922–36A4BS**  
Az. to D.H.M. = 151.86250° 86.7'

**NBU 922–36G1T**  
Az. to D.H.M. = 152.88611° 66.8'

**NBU 922–36H2AS**  
Az. to D.H.M. = 154.82194° 46.8'

**NBU 922–36H2DS**  
Az. to D.H.M. = 159.59028° 27.1'

**EXISTING E.O.G. DRY HOLE MARKER NBU 318–36E**  
(Well bore buried, position determined with metal detector)

### SURFACE POSITION FOOTAGES:

NBU 922–36A4BS  
1795' FNL & 1522' FEL

NBU 922–36G1T  
1812' FNL & 1512' FEL

NBU 922–36H2AS  
1829' FNL & 1501' FEL

NBU 922–36H2DS  
1846' FNL & 1491' FEL

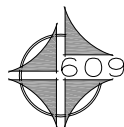
NBU 318–36E (Dry Hole Marker)  
1871' FNL & 1482' FEL

LATITUDE & LONGITUDE Surface Position – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
922–36A4BS	39°59'41.393" 39.994831°	109°23'03.606" 109.384335°
922–36G1T	39°59'41.225" 39.994785°	109°23'03.472" 109.384298°
922–36H2AS	39°59'41.056" 39.994738°	109°23'03.337" 109.384260°
922–36H2DS	39°59'40.888" 39.994691°	109°23'03.203" 109.384223°
Existing Well NBU 318–36E	39°59'40.637" 39.994621°	109°23'03.082" 109.384189°

LATITUDE & LONGITUDE Surface Position – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
922–36A4BS	39°59'41.517" 39.994866°	109°23'01.155" 109.383654°
922–36G1T	39°59'41.349" 39.994819°	109°23'01.021" 109.383617°
922–36H2AS	39°59'41.180" 39.994772°	109°23'00.886" 109.383579°
922–36H2DS	39°59'41.012" 39.994725°	109°23'00.752" 109.383542°
Existing Well NBU 318–36E	39°59'40.761" 39.994656°	109°23'00.631" 109.383509°

**Kerr–McGee**  
**Oil & Gas Onshore, LP**  
1099 18th Street – Denver, Colorado 80202

NBU 922–36A4BS, NBU 922–36G1T,  
NBU 922–36H2AS & NBU 922–36H2DS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M. UTAH COUNTY, UTAH.

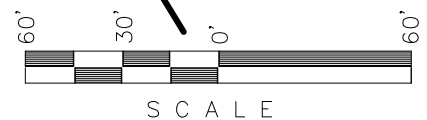


CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 09-29-08	SURVEYED BY: M.S.B.
DATE DRAWN: 10-02-08	DRAWN BY: E.M.S.
	REVISED: 02-04-08


**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**5**  
OF 13



SCALE

TOTAL CUT FOR WELL PAD = 12,115 C.Y.  
TOTAL FILL FOR WELL PAD = 9,224 C.Y.  
TOPSOIL @ 6" DEPTH = 2,693 C.Y.  
EXCESS MATERIAL = 2,891 C.Y.  
TOTAL DISTURBANCE = 3.34 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,590 BARRELS  
RESERVE PIT VOLUME  
+/- 7,690 CY

 EXISTING WELL LOCATION  
 PROPOSED WELL LOCATION  
 EXISTING CONTOURS (2' INTERVAL)  
 PROPOSED CONTOURS (2' INTERVAL)

KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
99 18th Street - Denver, Colorado 80202



WELL PAD - LOCATION LAYOUT  
NBU 922-36A4BS, NBU 922-36G1T,  
NBU 922-36H2AS & NBU 922-36H2DS  
LOCATED IN SECTION 36, T.9S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=60'

Date: 2/25/09

SHEET NO:

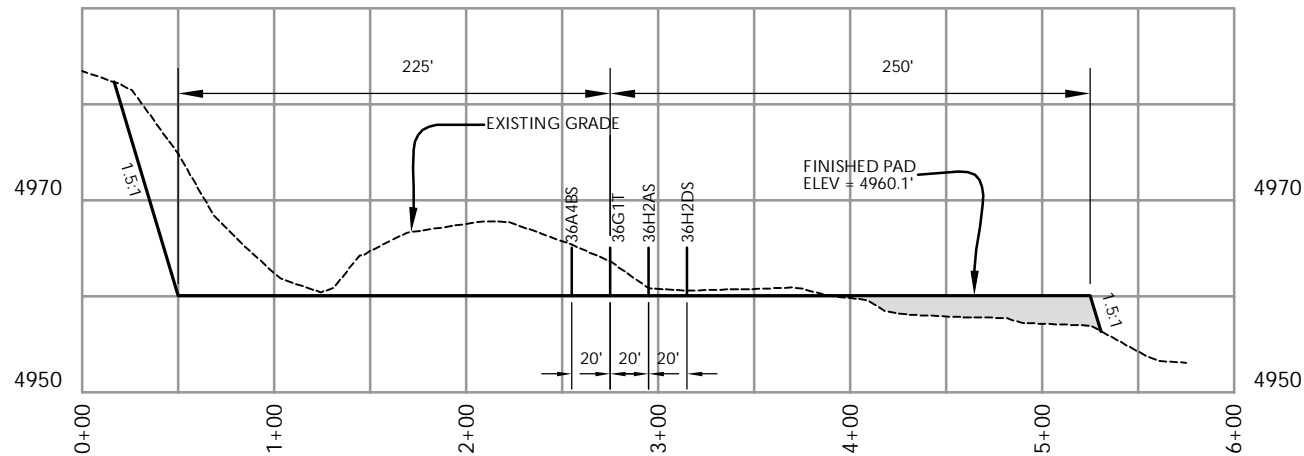
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6 OF 13

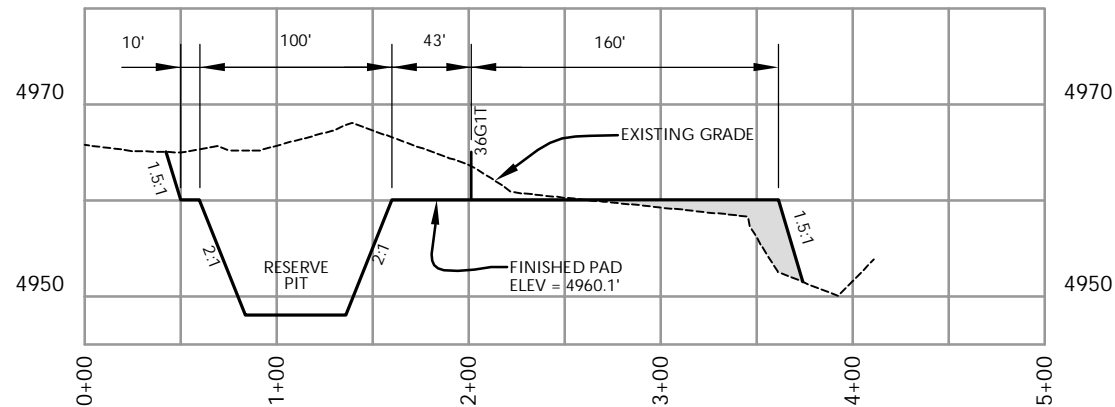


HORIZONTAL  1" = 60'

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
NBU 922-36A4BS, NBU 922-36G1T,  
NBU 922-36H2AS & NBU 922-36H2DS  
LOCATED IN SECTION 36, T.9S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

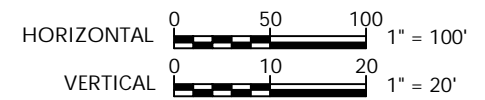
Scale: 1"=100'

Date: 2/25/09

SHEET NO:

**7**

7 OF 13



**Timberline** (435) 789-1365  
**Engineering & Land Surveying, Inc.**  
38 WEST 100 NORTH VERNAL, UTAH 84078

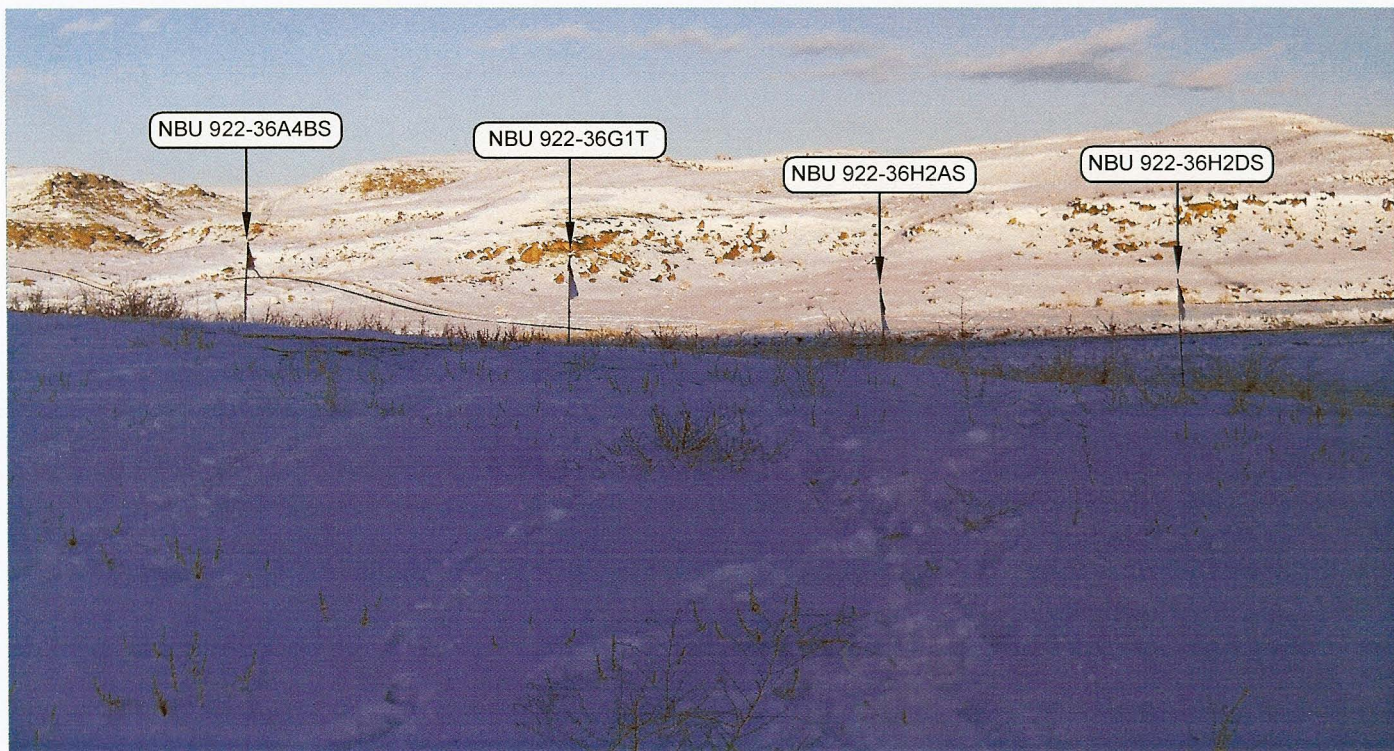


PHOTO VIEW: FROM CORNER 7 TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY

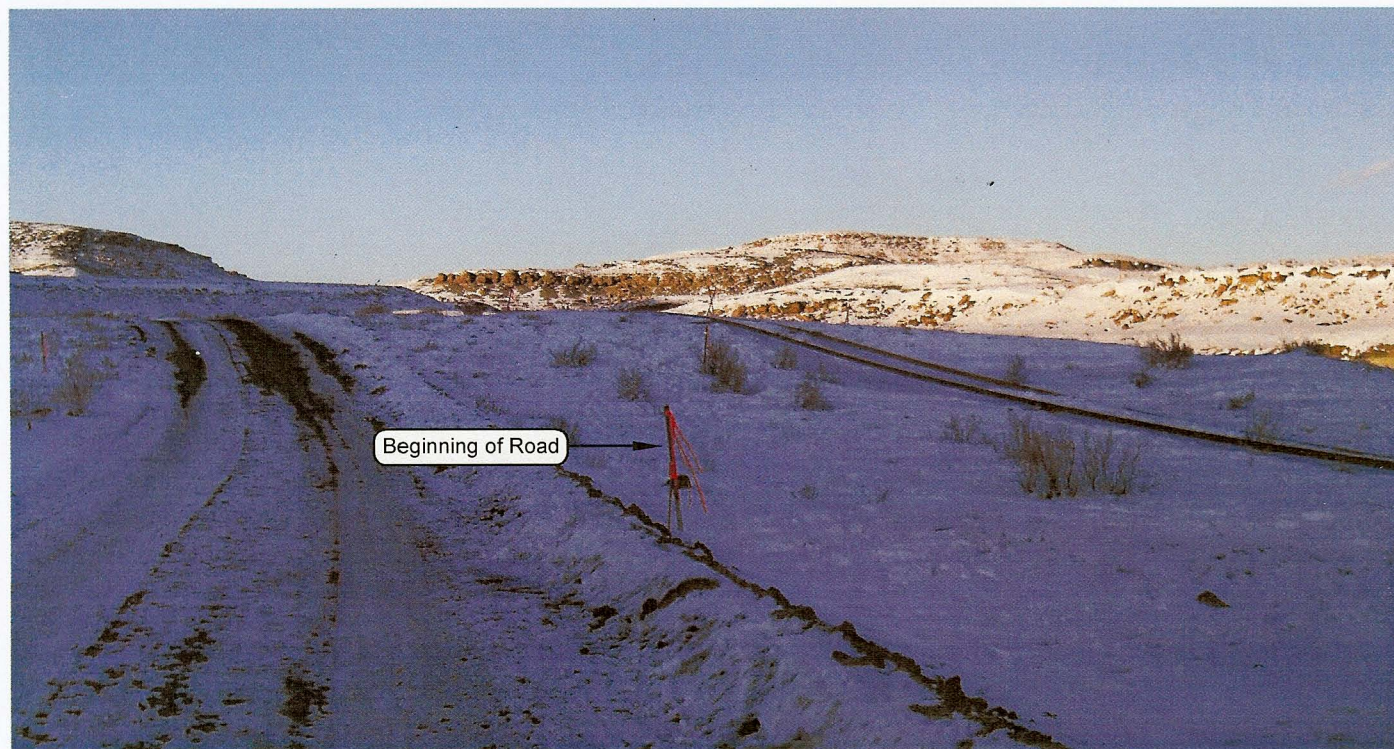


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHWESTERLY

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street — Denver, Colorado 80202



CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

NBU 922-36A4BS, NBU 922-36G1T,  
 NBU 922-36H2AS & NBU 922-36H2DS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M. UINTAH COUNTY, UTAH.

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

DATE TAKEN: 09-29-08

DATE DRAWN: 10-02-08

REVISED: 02-04-09

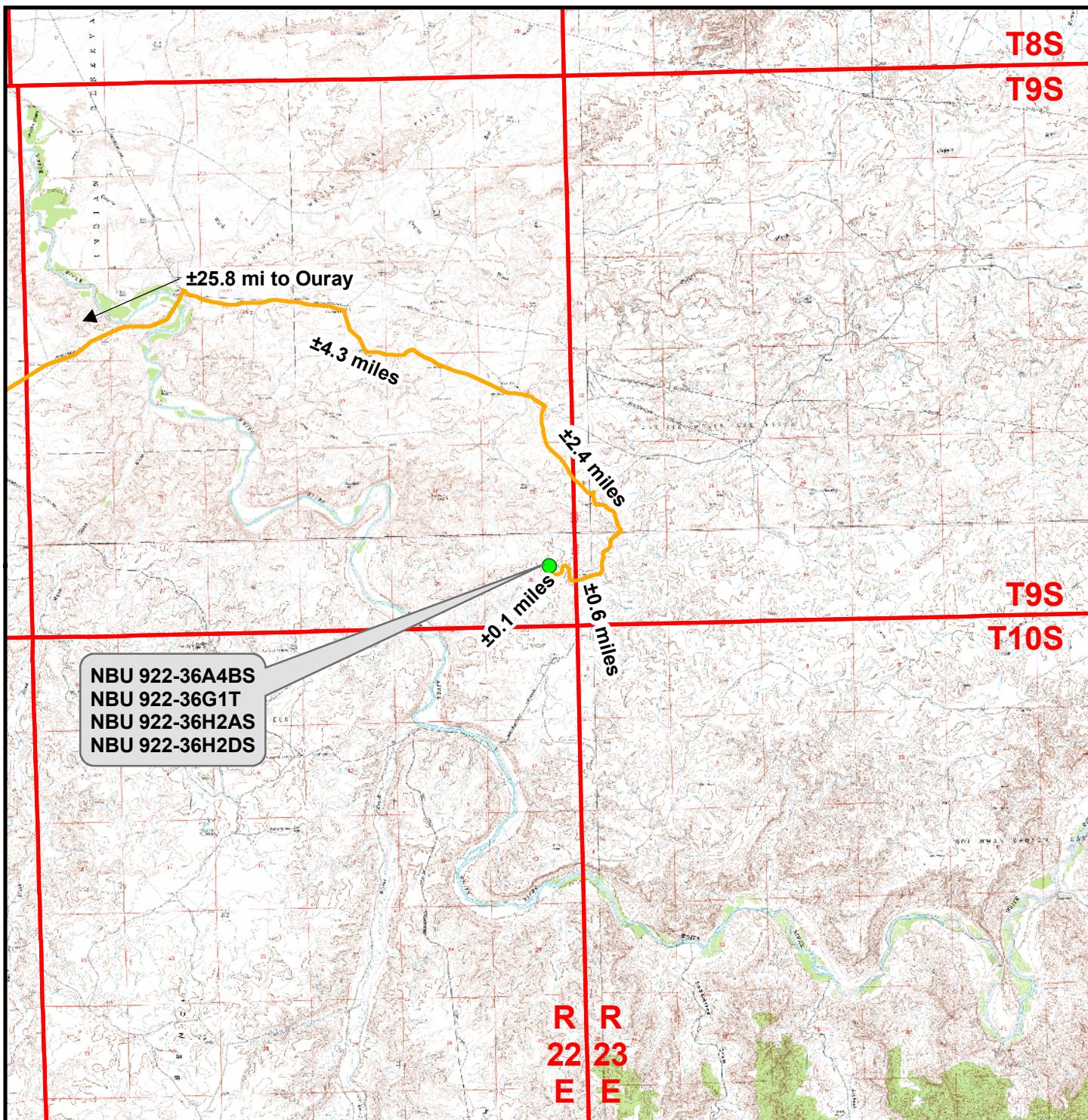
**Timberline**

(435) 789-1365

Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET**  
**8**  
**OF 13**



### Legend

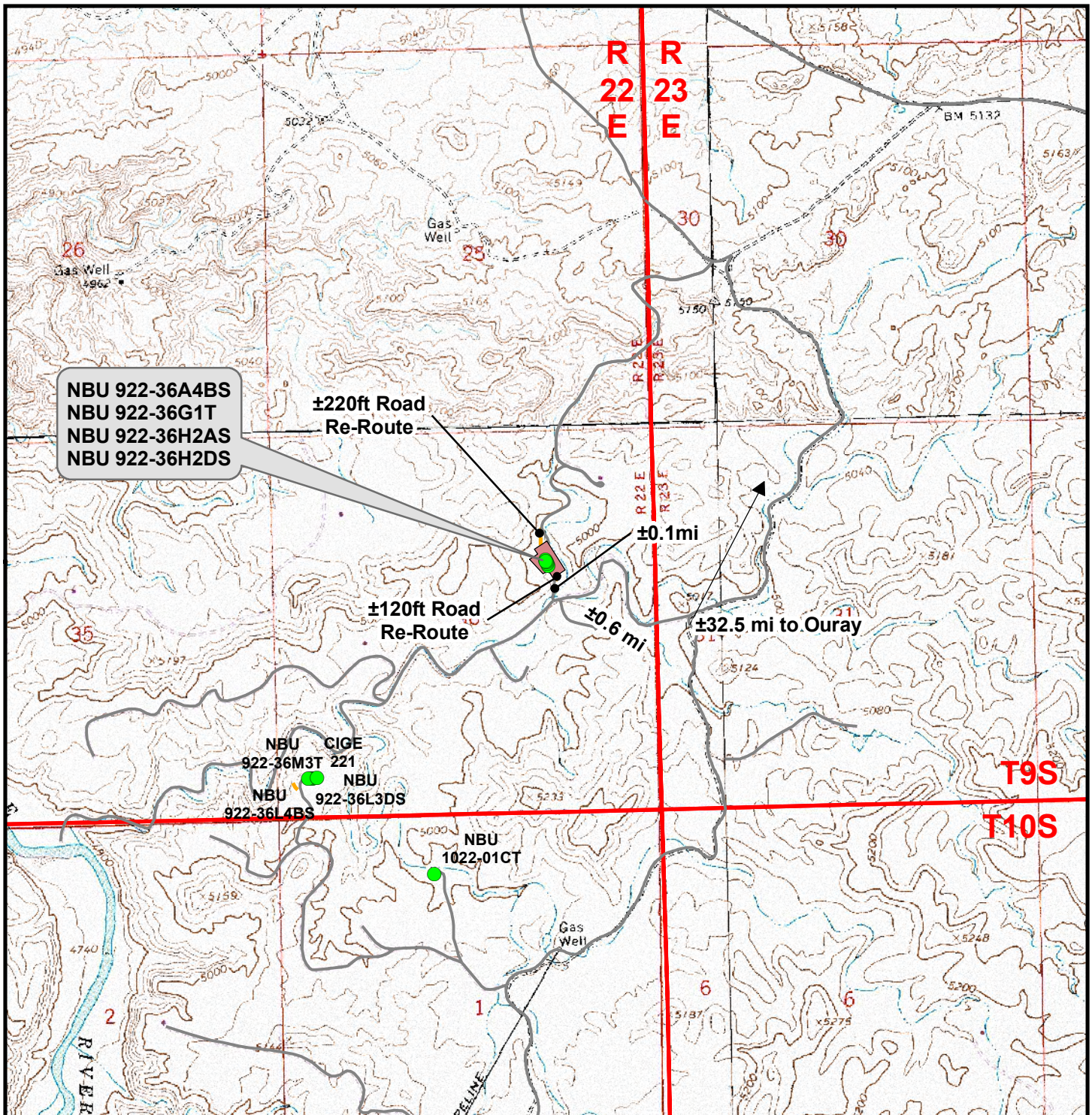
- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 922-36A4BS, NBU 922-36G1T,  
NBU 922-36H2AS & NBU 922-36H2DS**  
**Topo A**  
**Located In Section 36, T9S, R22E**  
**S.L.B.&M., Uintah County, Utah**



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 24 Feb 2009	<b>9</b>
Revised:	Date:	9 of 13



### Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Road - Existing

Total Proposed Road Length: ±340ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 922-36A4BS, NBU 922-36G1T,  
NBU 922-36H2AS & NBU 922-36H2DS**  
**Topo B**  
**Located In Section 36, T9S, R22E**  
**S.L.B.&M., Uintah County, Utah**

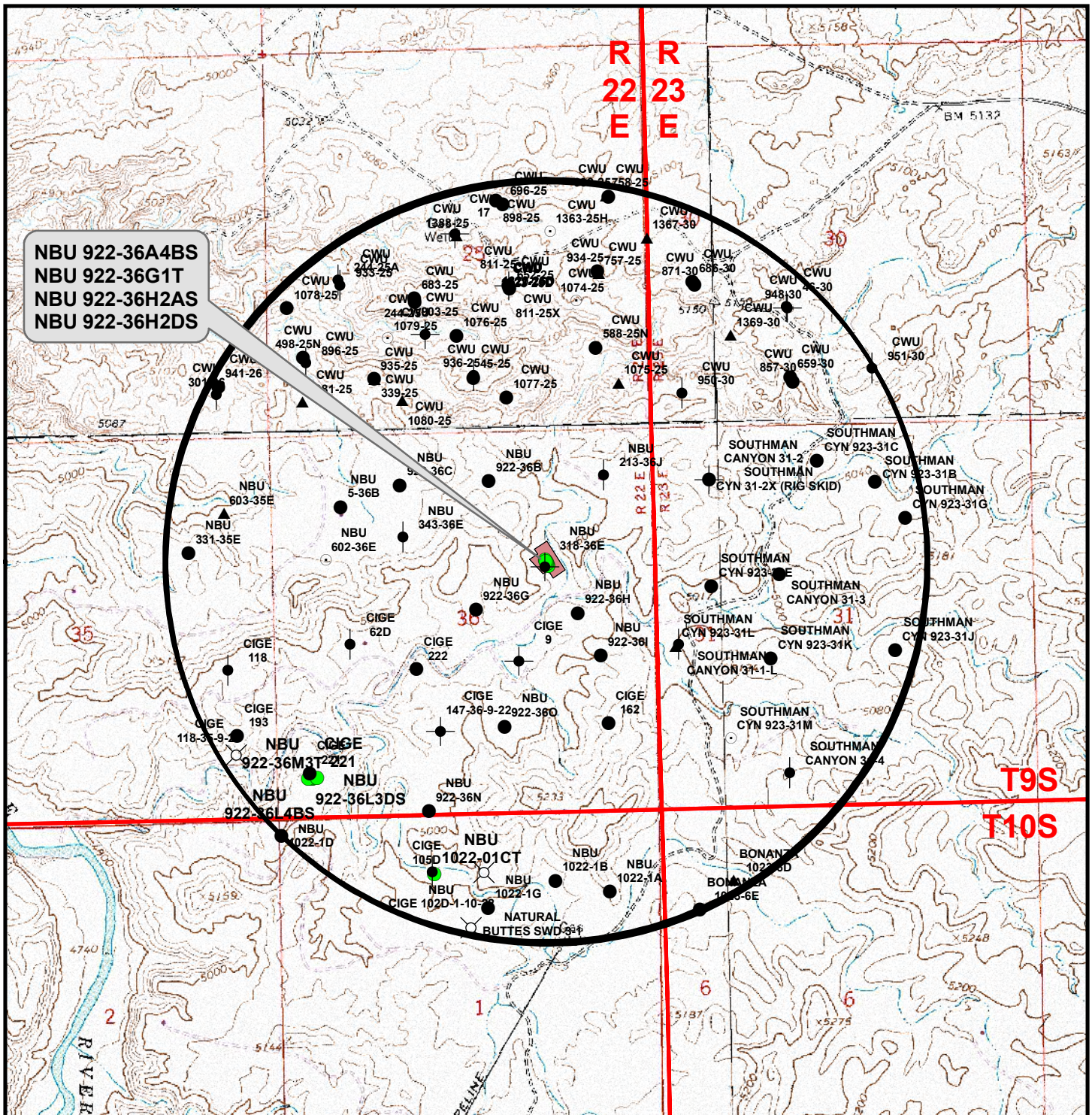
**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central
Drawn: JELO	Date: 24 Feb 2009
Revised:	Date:

Sheet No:

**10** 10 of 13



### Legend

- |  |   |   |  |  |
|--|---|---|--|--|
| <span style="color: green;">●</span> Well - Proposed   | <span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well - 1 Mile Radius | <span style="color: black;">●</span> Producing                                      | <span style="color: black;">✕</span> Location Abandoned    | <span style="color: black;">●</span> Shut-In |
| <span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well Pad |   | <span style="color: black;">▲</span> Approved permit (APD); not yet spudded         | <span style="color: black;">●</span> Temporarily-Abandoned |  |
|  |   | <span style="color: black;">○</span> Spudded (Drilling commenced: Not yet complete) | <span style="color: black;">●</span> Plugged and Abandoned |  |

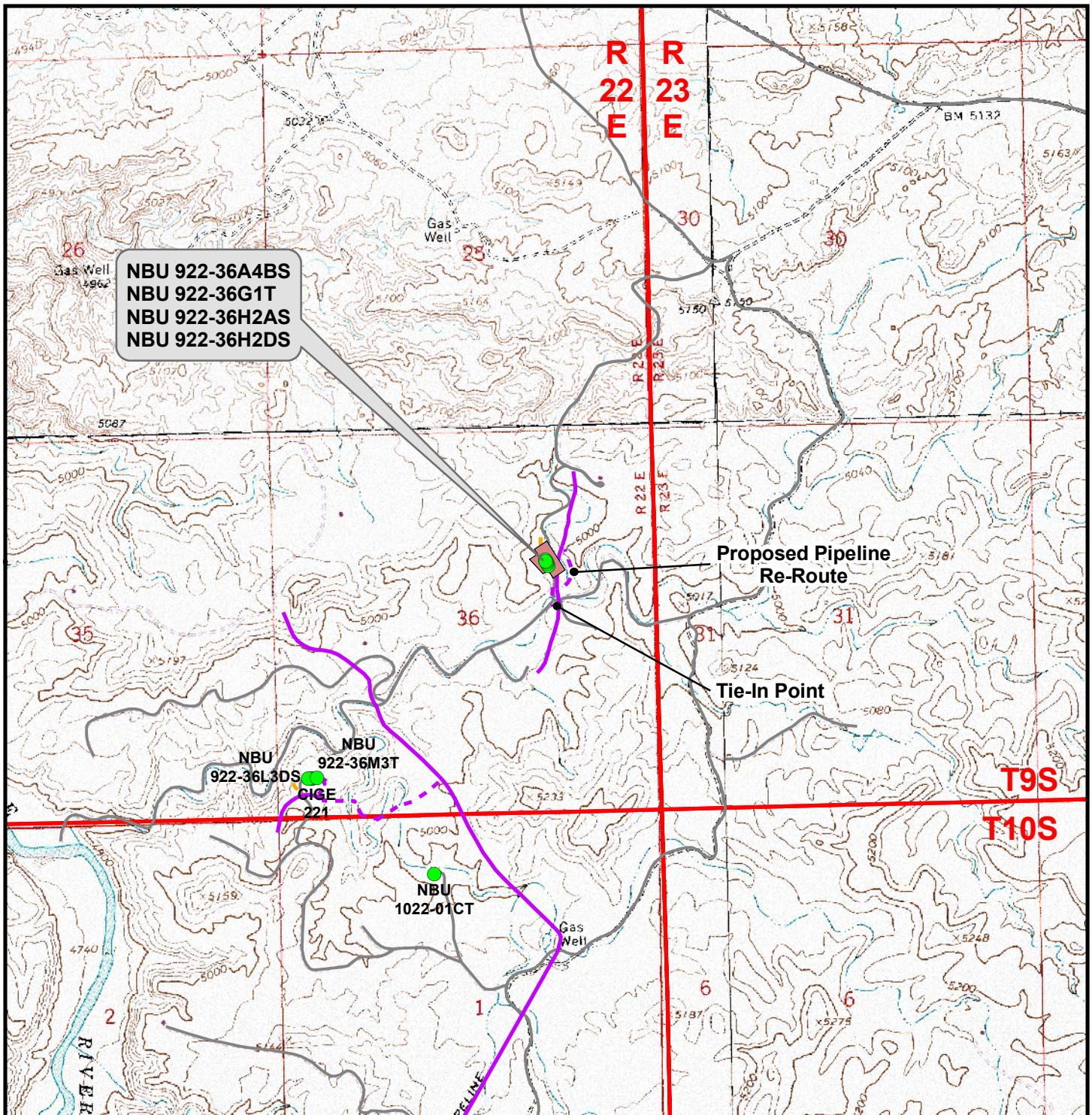
**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 922-36A4BS, NBU 922-36G1T,  
NBU 922-36H2AS & NBU 922-36H2DS**  
**Topo C**  
**Located In Section 36, T9S, R22E**  
**S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 24 Feb 2009	<b>11</b> 11 of 13
Revised:	Date:	



### Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Pipeline - Proposed
- Road - Existing
- Pipeline - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad:  $\pm 1,020\text{ft}$   
 Proposed Pipeline Length Around Pad:  $\pm 660\text{ft}$

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**NBU 922-36A4BS, NBU 922-36G1T,  
 NBU 922-36H2AS & NBU 922-36H2DS**  
**Topo D**  
**Located In Section 36, T9S, R22E**  
**S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 24 Feb 2009	<b>12</b> 12 of 13
Revised:	Date:	

**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 922-36A4BS, NBU 922-36G1T, NBU 922-36H2AS & NBU 922-36H2DS**  
**Section 36, T9S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 14.6 MILES TO THE INTERSECTION OF THE CHAPETA WELLS ROAD (COUNTY B ROAD 3410) WHICH ROAD INTERSECTION IS APPROXIMATELY 400 FEET NORTHEAST OF THE MOUNTAIN FUEL BRIDGE, AT THE WHITE RIVER. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 4.3 MILES ALONG THE CHAPETA WELLS ROAD TO THE INTERSECTION OF THE ATCHEE WASH ROAD (COUNTY B ROAD 4240). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY, THEN SOUTHERLY DIRECTION ALONG THE ATCHEE WASH ROAD APPROXIMATELY 2.4 MILES TO AN EXISTING SERVICE ROAD TO THE WEST. EXIT RIGHT AND PROCEED IN A WESTERLY, THEN NORTHERLY, THEN SOUTHWESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.6 MILES TO THE EXISTING ACCESS ROAD. EXIT RIGHT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE ACCESS ROAD APPROXIMATELY 0.1 MILES TO NBU 318-36E WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 63.9 MILES IN A SOUTHERLY DIRECTION.

***Kerr-McGee Oil & Gas Onshore LP***

**NBU 922-36A4BS**

Surface: 1,795' FNL, 1,522' FEL (SW/4NE/4)  
BHL: 980' FNL 630' FEL (NE/4NE/4)

**NBU 922-36G1T**

Surface: 1,812' FNL, 1,512' FEL (SW/4NE/4)

**NBU 922-36H2AS**

Surface: 1,829' FNL, 1,501' FEL (SW/4NE/4)  
BHL: 1,360' FNL 700' FEL (SE/4NE/4)

**NBU 922-36H2DS**

Surface: 1,846' FNL, 1,491' FEL (SW/4NE/4)  
BHL: 1,720' FNL 795' FEL (SE/4NE/4)

Section 36 Township 9 South Range 22 East

Pad: NBU 922-36G

Uintah, Utah

Minerals: State – ML22650

Surface: State

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN***

**Directional Drilling:**

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-36A4BS/ 36G1T/ 36H2AS/ 36H2DS

Page 2  
Surface Use and Operations Plan

**2. Planned Access Roads:**

Approximately  $\pm 0.0$  mi. of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.*

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing & Proposed Facilities:**

*The following guidelines will apply if the well is productive.*

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-36A4BS/ 36G1T/ 36H2AS/ 36H2DS

Page 3  
Surface Use and Operations Plan

**5. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

**7. Methods of Handling Waste Materials:**

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-36A4BS/ 36G1T/ 36H2AS/ 36H2DS

Page 4  
Surface Use and Operations Plan

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI in Sec. 5 T9S R22E, NBU #159 in Sec. 35 T9S R21E, Ace Oilfield in Sec. 2 T6S R20E, MC&MC in Sec. 12 T6S R19E, Pipeline Facility in Sec. 36 T9S R20E, Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E, Bonanza Evaporation Pond in Sec. 2 T10S R23E.

**8. Ancillary Facilities:**

None are anticipated.

**9. Well Site Layout:** (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

**10. Plans for Reclamation of the Surface:**

*Producing Location:*

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

*Dry Hole/Abandoned Location:*

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-36A4BS/ 36G1T/ 36H2AS/ 36H2DS

Page 6  
Surface Use and Operations Plan

**11. Surface/Mineral Ownership:**

SITLA  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

**12. Other Information:**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey report and paleontological survey report is attached.

**Kerr-McGee Oil & Gas Onshore LP**  
NBU 922-36A4BS/ 36G1T/ 36H2AS/ 36H2DS

Page 7  
Surface Use and Operations Plan

**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Staff Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6226

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

\_\_\_\_\_  
Kathy Schneebeck Dulnoan

April 20, 2009  
Date

**IPC #09-53**

## **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Multi-Well Pad, Road Re-Route  
and Pipeline for "NBU #922-36A4BS, G1T, H2AS & H2DS"  
(Sec. 36, T 9 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

March 25, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078

## INTRODUCTION

At the request of Raleen White of Kerr McGee Oil & Gas Onshore LP and authorized by James Kirkland of the Office of the State Paleontologist, a paleontological reconnaissance survey of Kerr McGee's proposed multi-well pad, road re-route and pipeline for "NBU #922-36A4BS, G1T, H2AS, & H2DS" (Sec. 36, T 9 S, R 22 E) was conducted by David Alderks and Jason Klimek on March 18, 2009. The survey was conducted under Utah Paleontological Investigations Permit #07-356. This survey to collect any paleontological materials discovered during the construction processes in danger of damage or destruction was done to meet requirements of the National Environmental Policy Act of 1969, and other State and Federal laws and regulations that protect paleontological resources.

## FEDERAL AND STATE REQUIREMENTS

As mandated by the State of Utah, paleontologically-sensitive geologic formations on State lands that may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579).
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603.

BLM, 2008: BLM IM 2009-011 Assessment and Mitigation of Potential Impacts to Paleontological Resources. USDI – BLM Washington Office directive, October 29, 2008 replaces the Condition Classification System from Handbook H-8270-1. The following section outlines the new Potential Fossil Yield Classification (PFYC) System. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.
  - **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.

- **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known.
- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
  - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
  - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
  - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

## LOCATION

Kerr McGee's proposed multi-well pad, road re-route and pipeline for "NBU #922-36A4BS, G1T, H2AS, & H2DS" (Sec. 36, T 9 S, R 22 E) is located on lands managed by the State of Utah Trust Lands Administration (SITLA) in the Coyote Wash area, about 2 miles east of the White River, and some 17 miles southwest of Bonanza, Utah. The project area can be found on the Archy Bench 7.5 minute U. S. Geological Survey Quadrangle Map, Uintah County, Utah.

## PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner

of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

## **GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW**

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology, and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay

(1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint, and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

## FIELD METHODS

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

## PROJECT AREA

The project area is situated in the Wagonhound Member (Uinta B) of the Uinta Formation. The proposed well pad "NBU #922-36A4BS, G1T, H2AS & H2DS" is situated in the SE/NE quarter-quarter section of Sec. 36, T 9 S, R 22 E, and is approached by a proposed access road and pipeline from the south and a proposed access road from the north (Figure 1). The pad is staked on a small gentle hill and is surrounded by high outcrops to the north, west, and south with a prominent drainage forming the eastern edge of the area. The pit is staked on the western side of the pad. The geology of the proposed area consists of several beds of gray and maroon siltstones (approximately 8-14 inches in thickness) separated by layers of gray and green mudstone (approximately 1-4 feet in thickness). The area is also strewn with several large tan sandstone boulders that have tumbled down from a thick (about 12 feet) paleochannel that caps the outcrops that surround the north, west and south sides of the pad. A large area of the pad consists of previously disturbed materials.

The shattered fossilized remains of an unidentifiable turtle were discovered within an outcrop of gray mudstone on the northern end of the pad. Isolated fragments of bone were also discovered along the outcrops on the northern and western sides of the pad. Ichnofossils consisting of invertebrate burrows (*Planolites*) were discovered within the brown sandstone and gray siltstones throughout the area.

## SURVEY RESULTS

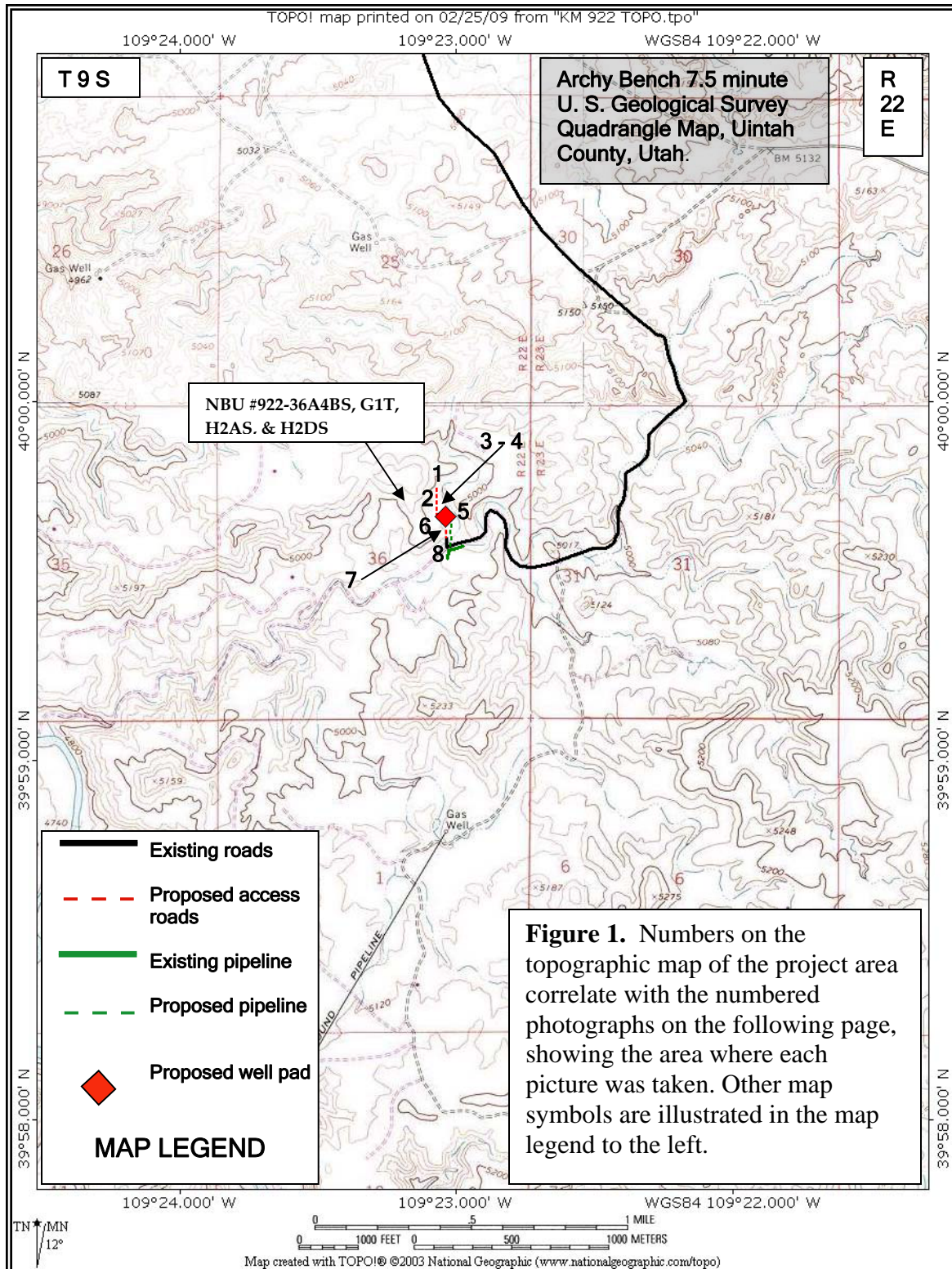
PROJECT	GEOLOGY	PALEONTOLOGY
“NBU #922-36A4BS, G1T, H2AS, & H2DS” (Sec. 36, T 4 S, R22 E)	The pad is staked on a small gentle hill and is surrounded by high outcrops to the north, west, and south with a prominent drainage forming the eastern edge of the area. The pit is staked on the western side of the pad. The geology of the proposed area consists of several beds of gray and maroon siltstones (approximately 8-14 inches in thickness) separated by layers of gray and green mudstone (approximately 1-4 feet in thickness). The area is also strewn with several large tan sandstone boulders that have tumbled down from a thick (about 12 feet) paleochannel that caps the outcrops that surround the north, west and south sides of the pad. A large area of the pad consists of previously disturbed materials.	The shattered fossilized remains of an unidentifiable turtle were discovered within an outcrop of gray mudstone on the northern end of the pad. Isolated fragments of bone were also discovered along the outcrops on the northern and western sides of the pad. Ichnofossils consisting of invertebrate burrows ( <i>Planolites</i> ) were discovered within the brown sandstone and gray siltstones throughout the area. <b>Class 3a</b>

## RECOMMENDATIONS

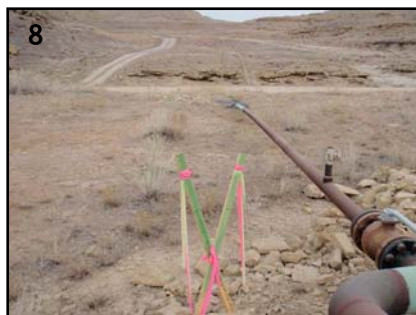
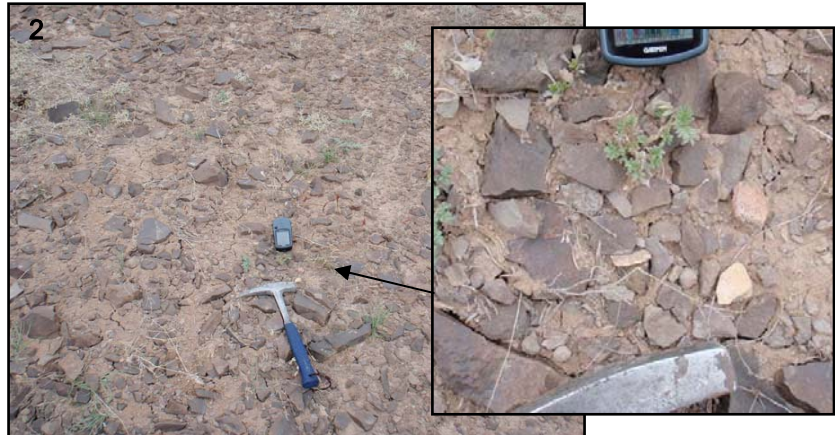
A reconnaissance survey was conducted for Kerr McGee's proposed multi-well pad, road re-route, and pipeline for “NBU #922-36A4BS, G1T, H2AS, & H2DS” (Sec. 36, T 9 S, R 22 E). The well pad and the associated re-route road and pipeline covered in this report showed little to no signs of vertebrate fossils. Therefore, we recommend that no paleontological restrictions should be placed on the development of the projects included in this report.

Buried pipeline will encounter Uinta formational sediments along most of the staked pipeline corridors yet indications from surface fossils predict that little if any vertebrate fossils will be disturbed.

**Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, Operator (Lease Holder) will report all occurrences of paleontological resources discovered to a geologist with the Office of the State Paleontologist. The operator is responsible for informing all persons in the areas who are associated with this project of the requirements for protecting paleontological resources. Paleontological resources found on the public lands are recognized by the State as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage.**



**Figure 1.** *continued...*

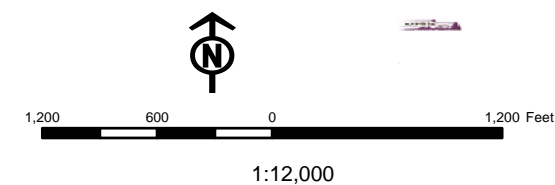
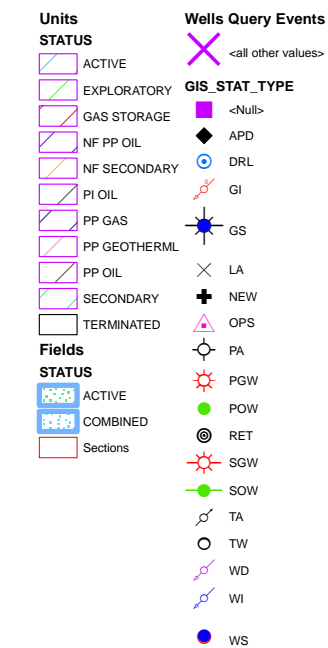


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Map Prepared:  
Map Produced by Diana Mason



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

May 8, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah  
County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50383	NBU 921-25M3DS Sec 25	T09S R21E 1855 FSL 0231 FWL
	BHL Sec 25	T09S R21E 0244 FSL 0587 FWL
43-047-50384	NBU 921-25M2DS Sec 25	T09S R21E 1860 FSL 0251 FWL
	BHL Sec 25	T09S R21E 0740 FSL 0623 FWL
43-047-50385	NBU 921-25M2AS Sec 25	T09S R21E 1865 FSL 0270 FWL
	BHL Sec 25	T09S R21E 1245 FSL 0643 FWL
43-047-50386	NBU 921-25L4BS Sec 25	T09S R21E 1870 FSL 0290 FWL
	BHL Sec 25	T09S R21E 1733 FSL 0677 FWL
43-047-50387	NBU 1022-14F4S Sec 14	T10S R22E 1435 FNL 1470 FWL
	BHL Sec 14	T10S R22E 2035 FNL 2255 FWL
43-047-50388	NBU 1022-14F2T Sec 14	T10S R22E 1407 FNL 1417 FWL
43-047-50389	NBU 1022-14D3S Sec 14	T10S R22E 1397 FNL 1400 FWL
	BHL Sec 14	T10S R22E 0900 FNL 0410 FWL
43-047-50390	NBU 1022-14C4S Sec 14	T10S R22E 1426 FNL 1453 FWL
	BHL Sec 14	T10S R22E 1290 FNL 1975 FWL

Page 2

43-047-50391 NBU 922-36H2DS Sec 36 T09S R22E 1846 FNL 1491 FEL  
BHL Sec 36 T09S R22E 1720 FNL 0795 FEL

43-047-50392 NBU 922-36H2AS Sec 36 T09S R22E 1829 FNL 1501 FEL  
BHL Sec 36 T09S R22E 1360 FNL 0700 FEL

43-047-50393 NBU 922-36G1T Sec 36 T09S R22E 1812 FNL 1512 FEL

43-047-50394 NBU 922-36A4BS Sec 36 T09S R22E 1795 FNL 1522 FEL  
BHL Sec 36 T09S R22E 0980 FNL 0630 FEL

43-047-50395 NBU 922-31O1AS Sec 31 T09S R22E 2314 FSL 0128 FEL  
BHL Sec 31 T09S R22E 1098 FSL 1494 FEL

43-047-50396 NBU 922-31J3AS Sec 31 T09S R22E 2313 FSL 0148 FEL  
BHL Sec 31 T09S R22E 1871 FSL 1973 FEL

43-047-50397 NBU 922-31I4AS Sec 31 T09S R22E 2315 FSL 0088 FEL  
BHL Sec 31 T09S R22E 1743 FSL 0153 FEL

43-047-50398 NBU 922-31I3CS Sec 31 T09S R22E 2314 FSL 0108 FEL  
BHL Sec 31 T09S R22E 1341 FSL 1125 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:5-8-09

**From:** Jim Davis  
**To:** Bonner, Ed; Mason, Diana  
**Date:** 6/1/2009 2:12 PM  
**Subject:** Kerr McGee Approvals (16)

**CC:** Garrison, LaVonne

The following wells have been approved by SITLA including arch and paleo clearance.

NBU 922-36A4BS (4304750394)  
NBU 922-36G1T (4304750393)  
NBU 922-36H2AS (4304750392)  
NBU 922-36H2DS (4304750391)

NBU 921-25M3DS (4304750383)  
NBU 921-25M2DS (4304750384)  
NBU 921-25M2AS (4304750385)  
NBU 921-25L4BS (4304750386)

NBU 922-31O1AS (4304750395)  
NBU 922-31J3AS (4304750396)  
NBU 922-31I3CS (4304750398)  
NBU 922-31I4AS (4304750397)

NBU 1022-19P1AS (4304750418)  
NBU 1022-20M4CS (4304750422)  
NBU 1022-20M1DS (4304750421)  
NBU 1022-20M4DS (4304750423)

-Jim

Jim Davis  
Utah Trust Lands Administration  
jimdavis1@utah.gov  
Phone: (801) 538-5156

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-36G1T 430475039300			
String	Surf	Prod		
Casing Size(in)	9.625	4.500		
Setting Depth (TVD)	2175	8600		
Previous Shoe Setting Depth (TVD)	40	2175		
Max Mud Weight (ppg)	8.4	12.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780		
Operators Max Anticipated Pressure (psi)	5090	11.4		

Calculations	Surf String	9.625	"
Max BPH (psi)	.052*Setting Depth*MW=	950	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	689	NO      Air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	472	YES      OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	480	NO      Reasonable depth in area
Required Casing/BOPE Test Pressure=		2175	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi    *Assumes 1psi/ft frac gradient

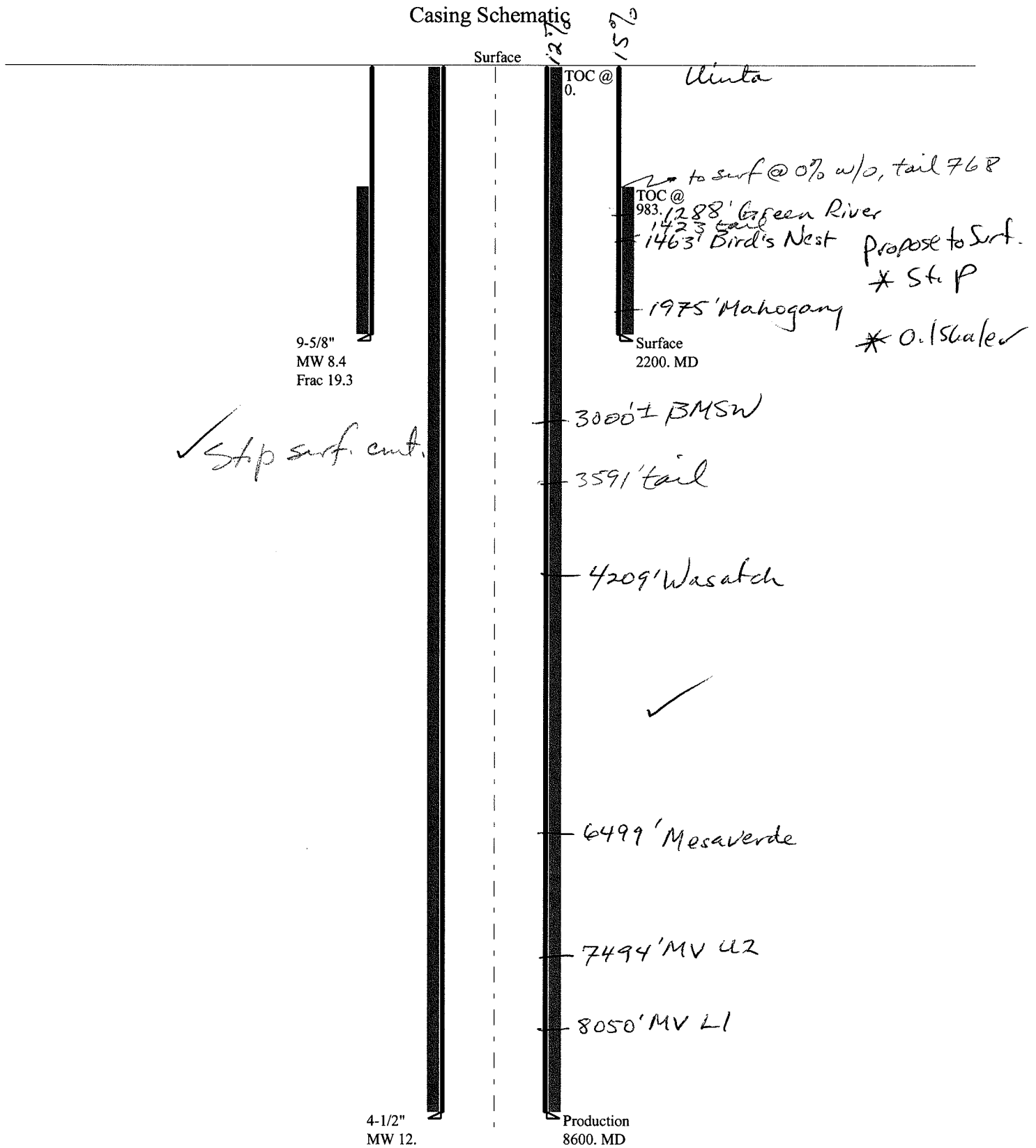
Calculations	Prod String	4.500	"
Max BPH (psi)	.052*Setting Depth*MW=	5366	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4334	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3474	YES      OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	3953	NO      Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2175	psi    *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi    *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi    *Assumes 1psi/ft frac gradient

43047503930000 NBU 922-36G1T

Casing Schematic



Well name:	<b>43047503930000 NBU 922-36G1T</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-50393
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 105 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 983 ft

**Burst**

Max anticipated surface pressure: 1,936 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,200 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 1,927 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 8,600 ft  
Next mud weight: 12.000 ppg  
Next setting BHP: 5,361 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,200 ft  
Injection pressure: 2,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2200	9.625	36.00	J-55	LT&C	2200	2200	8.796	17990

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	960	2020	2.104	2200	3520	1.60	79.2	453	5.72 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil,Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: June 11,2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2200 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>43047503930000 NBU 922-36G1T</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Production	Project ID: 43-047-50393
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 12.000 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 194 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 3,469 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,361 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

**Non-directional string.**

Tension is based on air weight.  
Neutral point: 7,057 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8600	4.5	11.60	I-80	LT&C	8600	8600	3.875	113516

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5361	6360	1.186	5361	7780	1.45	99.8	212	2.13 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: June 11, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8600 ft, a mud weight of 12 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
<b>Well Name</b>	NBU 922-36G1T				
<b>API Number</b>	43047503930000	<b>APD No</b>	1492	<b>Field/Unit</b>	NATURAL BUTTES
<b>Location: 1/4,1/4</b>	SWNE	<b>Sec</b>	36	<b>Tw</b>	9.0S
		<b>Rng</b>	22.0E	1812	FNL 1512 FEL
<b>GPS Coord (UTM)</b>	637985	4428230	<b>Surface Owner</b>		

### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Raleen White, Griz Oleen, Clay Einerson, Charles Chase and Tony Kzneck (Kerr McGee), Ben Williams (UDWR) and Kolby Kay (Timberline Engineering and Land Surveying).

### **Regional/Local Setting & Topography**

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs are known to exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43 air miles to the northwest. Access from Vernal is approximately 63.9 road miles following Utah State, Uintah County and oilfield development roads to the location.

The proposed 4 well pad for the NBU 922-36A4BS, NBU 922-36G1T, NBU 922-36H2AS, NBU 922-36H2DS encompasses the previous NBU 318-36B reclaimed dry hole location. The old location will be extended in all directions. It covers a small bowl and mound along the south side of a draw which limits extending the pad to the north. A new powerline restricts any additional movement of the pad to the south. The spoils from the reserve pit will fill a draw beyond the northwest side of the pad. When the pit is closed a diversion is needed along the west edge of the location running northerly then easterly joining the existing drainage. At Location Corner 1, fill should not extend into the bottom of the draw so as to unduly restrict any flows. On the south, spoils will also be extended toward the powerline. The dry hole lacks a surface marker. The sub-surface marker and well bore must not be disturbed. The powerline also must be avoided.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the pre-site and was agreeable to the modifications. He had no additional concerns regarding the proposal.

### **Surface Use Plan**

#### **Current Surface Use**

Grazing  
Recreational  
Wildlife Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width</b> 338 <b>Length</b> 475	Onsite	UNTA

**Ancillary Facilities** N

### **Waste Management Plan Adequate?**

### **Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

## Flora / Fauna

The area is mostly barren of vegetation. A few greasewood and halogeton plants exist. .

Sheep, deer, antelope, coyote, and other small mammals and birds.

## Soil Type and Characteristics

Deep sandy clay loam

## Erosion Issues N

## Sedimentation Issues Y

When the pit is closed a diversion is needed along the west edge of the location running northerly then easterly joining the existing drainage.

## Site Stability Issues N

## Drainage Diversion Required? Y

When the pit is closed a diversion is needed along the west edge of the location running northerly then easterly joining the existing drainage.

## Berm Required? N

## Erosion Sedimentation Control Required? N

Paleo Survey Run? Y    Paleo Potential Observed? N    Cultural Survey Run? Y    Cultural Resources? N

## Reserve Pit

### Site-Specific Factors

### Site Ranking

<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>		20
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Present	15
<b>Final Score</b>		55

1 Sensitivity Level

## Characteristics / Requirements

The reserve pit is planned in an area of cut in the west side of the location. It has been reduced in width at the south end so as to avoid the powerline. Dimensions are 75' to 125' feet wide by 250' long and 12' deep. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a 30-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock

**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y**

**Other Observations / Comments**

Floyd Bartlett  
**Evaluator**

5/20/2009  
**Date / Time**

# Application for Permit to Drill Statement of Basis

6/25/2009

## Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
1492	43047503930000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-36G1T		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	SWNE 36 9S 22E S 1812 FNL 1512 FEL GPS Coord (UTM) 637981E 4428226N				

### Geologic Statement of Basis

Kerr McGee proposes to set 2,175' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,000'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The production casing cement should be brought up above the base of the moderately saline ground water in order to isolate it from fresher waters up hole. The proposed casing and cement should adequately protect any usable ground water.

Brad Hill  
**APD Evaluator**

6/3/2009  
**Date / Time**

### Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs are known to exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43 air miles to the northwest. Access from Vernal is approximately 63.9 road miles following Utah State, Uintah County and oilfield development roads to the location.

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Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the pre-site and was agreeable to the modifications. He had no additional concerns regarding the proposal.

Ben Williams of the Utah Division of Wildlife Resources also attended the pre-site. Mr. Williams stated no wildlife values would be significantly affected by drilling and operating the wells at this location.

Floyd Bartlett  
**Onsite Evaluator**

5/20/2009  
**Date / Time**

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# Application for Permit to Drill

## Statement of Basis

6/25/2009

Utah Division of Oil, Gas and Mining

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Page 2

**Conditions of Approval / Application for Permit to Drill**

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 5/3/2009

**API NO. ASSIGNED:** 43047503930000

**WELL NAME:** NBU 922-36G1T

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6007

**CONTACT:** Kathy Schneebeck-Dulnoan

**PROPOSED LOCATION:** SWNE 36 090S 220E

**Permit Tech Review:** ☒

**SURFACE:** 1812 FNL 1512 FEL

**Engineering Review:** ☒

**BOTTOM:** 1812 FNL 1512 FEL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 39.99485

**LONGITUDE:** -109.38373

**UTM SURF EASTINGS:** 637981.00

**NORTHINGS:** 4428226.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ML 22650

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** STATE/FEE - 22013542

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☐ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
3 - Commingle - ddoucet  
5 - Statement of Basis - bhill  
17 - Oil Shale 190-5(b) - dmason  
25 - Surface Casing - hmacdonald



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 922-36G1T  
**API Well Number:** 43047503930000  
**Lease Number:** ML 22650  
**Surface Owner:** STATE  
**Approval Date:** 6/30/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingling:**

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to spudding the well - contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program - contact

Dustin Doucet

- Prior to commencing operations to plug and abandon the well - contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well - contact Dustin Doucet
- Any changes to the approved drilling plan - contact Dustin Doucet

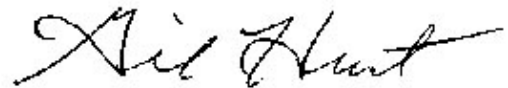
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at: (801) 538-5338 office  
(801) 942-0871 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office  
(801) 733-0983 home

**Reporting Requirements:**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**Approved By:**



Gil Hunt  
Associate Director, Oil & Gas

## DIVISION OF OIL, GAS AND MINING

### **SPUDDING INFORMATION**

Name of Company: KERR-McGEE OIL & GAS ONSHORE,L.P.

Well Name: NBU 922-36G1T

Api No: 43-047-50393 Lease Type: STATE

Section 36 Township 09S Range 22E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

### **SPUDDED:**

Date 07/31/2009

Time 12:45 PM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by JAMES GOBER

Telephone # (435) 828-1724

Date 08/03/2009 Signed CHD

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22650
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 922-36G1T
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1812 FNL 1512 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047503930000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

**11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: _____
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:			
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:			
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 7/31/2009			

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**  
 MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  
 RAN 14" 36.7# CONDUCTOR PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 07/31/2009 AT 12:45 HRS.

Accepted by the  
Utah Division of  
Oil, Gas and Mining

FOR RECORD ONLY

August 04, 2009

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/4/2009	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
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<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER:	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 8/6/2009	OTHER:	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PROPETRO AIR RIG ON 08/05/2009. DRILLED 12-1/4" SURFACE HOLE TO 2090'. RAN 9-5/8" 36# J-55 SURFACE CASING. CMT W/ 350 SX TAIL PREM LITE @ 15.8 PPG, 1.15 YIELD. TOP OUT W/200 SX PREM LITE @ 15.8 PPG, 1.15 YIELD. NO CMT TO SURFACE. WORT		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> August 10, 2009		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/10/2009	

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<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> Uintah		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 9/14/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <span style="border: 1px solid black; padding: 2px;">Frac Factory Pit Refurb</span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; padding: 2px;">Frac Factory Pit Refurb</span>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad KMG is also requesting to utilize this pit as a staging pit to be utilized for other completion operations in the area. There will be 2 - 400 bbl upright skim tanks placed on location. The trucks will unload water into these tanks before the water is placed into the refurbished pit. The purpose of the skim tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the attached well location completion fluids will be recycled in this pit and utilized for other frac jobs in the area.					
<b>NAME (PLEASE PRINT)</b> Raleen White		<b>PHONE NUMBER</b> 720 929-6666			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Sr. Regulatory Analyst  <b>DATE</b> 9/14/2009			

**Approved by the  
 Utah Division of  
 Oil, Gas and Mining**

**Date:** September 22, 2009

**By:**

**RECEIVED** September 14, 2009



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

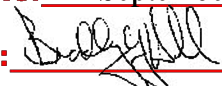
**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43047503930000**

**A synthetic liner with a minimum thickness of 30 mils shall be properly installed and maintained in the pit.**

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** September 22, 2009

**By:** 

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22650
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 922-36G1T
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1812 FNL 1512 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047503930000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> Uintah		<b>STATE:</b> UTAH
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 11/11/2009	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input checked="" type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER:</b> _____	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 11/11/2009 AT 2:00 P.M. PLEASE REFER TO THE ATTACHED CHRONOLOGICAL WELL HISTORY.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> November 19, 2009		
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/19/2009	

# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]	Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH	Site: NBU 922-36G PAD	Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING	Start Date: 7/21/2009	End Date: 9/19/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)	UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/5/2009	1:30 - 3:00	1.50	MIRU	01	B	P		RURT
	3:00 - 5:30	2.50	DRLSUR	02	A	P		HAMMER DRILL F/40 TO 180'
	5:30 - 8:30	3.00	DRLSUR	06	A	P		POOH L/D HAMMER P/U DIR TOOLS ,TIH
	8:30 - 9:00	0.50	DRLSUR	02	D	P		DIR DRILL F/180 TO 250'
	9:00 - 12:00	3.00	DRLSUR	08	A	Z		REPAIR BRAKES
	12:00 - 0:00	12.00	DRLSUR	02	D	P		DIR DRILL F/250 TO 1450,NUDGE 1.5 ,@270 AZI,,SURVEY EVERY 90',AVG 100'/HR
8/6/2009	0:00 - 9:30	9.50	DRLSUR	02	D	P		DIR DRILL F/1450 TO 2090,SURVEY EVERY 90'
	9:30 - 10:00	0.50	DRLSUR	05	C	P		CIRC F/CSG RUN
	10:00 - 13:00	3.00	DRLSUR	06	A	P		LDDP ,BHA & DIR TOOLS
	13:00 - 16:00	3.00	CSG	12	C	P		RUN 47 JTS 9.625 #36 CSG TO 2060'
	16:00 - 16:30	0.50	RDMO	01	E	P		RIG RELEASE 16:30 PM 8/6/09,
9/12/2009	18:00 - 20:00	2.00	DRLPRO	01	E	P		RD FLOW LINES & EQUIPMENT, MAKE RIG READY TO WALK
	20:00 - 20:30	0.50	DRLPRO	01	C	P		WALK RIG
	20:30 - 22:30	2.00	DRLPRO	14	A	P		NU BOP & WELL HEAD
	22:30 - 23:30	1.00	DRLPRO	15	A	P		RU TESTER
9/13/2009	23:30 - 0:00	0.50	DRLPRO	15	A	P		TEST BOP
	0:00 - 3:00	3.00	DRLPRO	15	A	P		TEST BOP-250 LOW/5000 HIGH, ANNULAR 2500
	3:00 - 4:30	1.50	DRLPRO	06	A	P		MU BIT,BHA, ORIENT TOOLS
	4:30 - 6:30	2.00	DRLPRO	06	A	P		TIH, TAG CMT AT 1984/
	6:30 - 7:00	0.50	DRLPRO	23	B	P		PRE-SPUD CHECKLIST, RIG SAFETY INSPECTION
	7:00 - 8:00	1.00	DRLPRO	08	B	Z		TROUBLE SHOOT & RIG SMART SYSTEM
	8:00 - 11:30	3.50	DRLPRO	02	D	P		DRILL CMT TO SHOE AT 2015, DRILL ON FLOAT SHOE, MOTOR QUIT DRILLING, LOST DIFFERENTIAL, LOST TORQUE, DRILLED THRU SEVERAL PARAMETERS BUT COULD NOT GET DRILLING
	11:30 - 13:00	1.50	DRLPRO	06	H	Z		TRIP FOR MUD MOTOR
	13:00 - 14:00	1.00	DRLPRO	06	H	Z		DIR WORK, BREAK OUT AND LAY DOWN MOTOR
	14:00 - 14:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	14:30 - 16:00	1.50	DRLPRO	06	A	Z		DIR WORK, PU MOTOR, MAKE UP BHA, ORIENT TOOLS
	16:00 - 17:30	1.50	DRLPRO	06	A	Z		TIH TAG SHOE AT 2015
	17:30 - 18:30	1.00	DRLPRO	02	F	P		DRILL OUT SHOE, DRILL AHEAD
	18:30 - 20:00	1.50	DRLPRO	02	D	P		DRILL& SLIDE 2015-2202, WOB- 17-22, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1286/1204, DIFF-370-415, RPM-133, TORQUE ON/OFF BOTTOM-8/2, MW-8.4, VIS-26, BGG-48-230, ROP-198
	20:00 - 20:30	0.50	DRLPRO	08	B	Z		WORK ON RIG SMART SYSTEM
	20:30 - 0:00	3.50	DRLPRO	02	D	P		DRILL& SLIDE 2202-2485, WOB- 17-22, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1286/1204, DIFF-370-415, RPM-133, TORQUE ON/OFF BOTTOM-8/2, MW-8.4, VIS-26, BGG-48-230, ROP-204

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH		Site: NBU 922-36G PAD	Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING		Start Date: 7/21/2009	End Date: 9/19/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/14/2009	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL& SLIDE 2485 - 4299, WOB- 17-24, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1971/1892, DIFF-375-530, RPM-1149, TORQUE ON/OFF BOTTOM-8/4, MW-8.4, VIS-26, BGG-185/960, ROP-246
	12:00 - 12:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL& SLIDE 4299- 6202 , WOB- 17-24, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-2015/1892, DIFF-435-550, RPM-149, TORQUE ON/OFF BOTTOM-12/6, MW-8.4, VIS-26, BGG-224/960, ROP-246
9/15/2009	0:00 - 14:00	14.00	DRLPRO	02	D	P		DRILL& SLIDE 6202 - 7560, WOB- 17-24, #1 SPM-60, #2 SPM-59, GPM-456, SPP ON/OFF BOTTOM-1971/1892, DIFF-375-530, RPM-147, TORQUE ON/OFF BOTTOM-13/7, MW-8.4, VIS-26, BGG-185/1800, ROP-168, 5-10' FLARE
	14:00 - 14:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	14:30 - 22:30	8.00	DRLPRO	02	D	P		DRILL& SLIDE 7560- 7987, WOB- 17-24, #1 SPM-60, #2 SPM-59, GPM-456, SPP ON/OFF BOTTOM-2661/2510, DIFF-375-530, RPM-147, TORQUE ON/OFF BOTTOM-12/9, MW-10.3, VIS-44, BGG-330-680, ROP-168, 5-7' FLARE
9/16/2009	22:30 - 0:00	1.50	DRLPRO	22	N	X		TOOK KICK, SHUT IN WELL, STABILIZE PSI- AT 575. CALCULATE KILL WT MUD - 11.7, MIXING BAR
	0:00 - 2:30	2.50	DRLPRO	22	N	X		SHUT IN WELL, STABILIZE PSI
	2:30 - 3:30	1.00	DRLPRO	22	N	X		START KILL PROCEDURE, LOST SSP, PUMPED 138 BBLs 11.7 MUD AROUND BIT
9/16/2009	3:30 - 6:30	3.00	DRLPRO	05	B	X		BUILD VOLUME, RAISE MUD WT TO 11.8
	6:30 - 7:00	0.50	DRLPRO	05	A	X		OPEN CSG, ALLOW WELL TO U-TUBE AND EQUILIZE
	7:00 - 12:30	5.50	DRLPRO	05	I	X		START PUMPING 11.8 MUD, CATCH FLUID, REGAIN RETURNS, PUMP SURFACE TO SURFACE, 4776 STROKES, LOSING RETURNS ON AND OFF THROUGHOUT CIRCULATION, MIXING LCM, CONTINUE SLOW CIRCULATION TO HEAL UP LOSSES. MIX LCM TO 6%, OPEN CHOKE, 20'-40' FLARE. PP 104 SPM @ 930 PSI, CHANGE PUMPS, 104 SPM @ 2060 PSI. CIRCULATED 6% LCM AROUND. TAKE NEW SPR WITH 11.7 PPG. 40 @ 500 PSII.
9/16/2009	12:30 - 13:30	1.00	DRLPRO	02	D	P		DRILL 7987'-8013' (26') 26'/HR. WOB- 20-24, (1 PUMP @ 397 GPM) WORK ON #1 PUMP, SPP 2000-2250, DIFF-200-250, RPM-119, TORQUE ON/OFF BOTTOM-12/9, BGG-280-400 MW-11.7, VIS-40,
	13:30 - 14:00	0.50	DRLPRO	07	A	P		SERVICE RIG, WORK ON #1 PUMP.
	14:00 - 17:00	3.00	DRLPRO	02	D	P		DRILL8013'-8078' (65') 21.6'/HR. WOB- 22-24, 458 GPM, SPP 2250-2750, DIFF-200-500, RPM-147, TORQUE ON/OFF BOTTOM-12/9, BGG-80-400 MW-11.7, VIS-40, DIFF FELL OFF TO 160 W/ 24K WOB @ 4.5'/HR.
9/16/2009	17:00 - 18:00	1.00	DRLPRO	05	C	P		NOTE: AT 8036' PICO DROPPED 43K WOB WHILE DRILLING.
	18:00 - 23:30	5.50	DRLPRO	06	A	P		CIRCULATE BOTTOMS UP.
	23:30 - 0:00	0.50	DRLPRO	06	A	P		POOH DUE TO SLOW P-RATE. BIT IS DBR. LAY DOWN DIRECTIONAL TOOLS. FUNCTION BLIND RAMS, CHECK COM.
9/17/2009	0:00 - 1:30	1.50	DRLPRO	06	A	P		PU NEW FMHX655ZM PDC ON 1.5 BH, .16 RPG MOTOR.
								TIH TO THE SHOE. FILL AND BREAK CIRC.

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH		Site: NBU 922-36G PAD	Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING		Start Date: 7/21/2009	End Date: 9/19/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/18/2009	1:30 - 4:30	3.00	DRLPRO	09	A	P		SLIP AND CUT 306' DRILL LINE.
	4:30 - 6:00	1.50	DRLPRO	08	B	Z		REPAIR RIG SMART, CHANGE OUT R.F.I.D. READER. (ANTI COLLISON DEVICE)
	6:00 - 9:30	3.50	DRLPRO	06	A	P		BREAK CIRCULATION, TIH. LOST 63 BBLS MUD ON THE TRIP IN.
	9:30 - 10:30	1.00	DRLPRO	03	A	P		REAM 95' TO BOTTOM. LAST 30' APPEARS TO BE UNDERGUAGE. BIT TAKING 6K WOB TO REAM. TRIP GAS 2500 UNITS, 20'-25' FLARE.
	10:30 - 14:00	3.50	DRLPRO	02	D	P		ROTATE 8078'-8256' (178') 50.8'/HR. 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 100-410 UNITS, CG- 1100 UNITS, MW 11.8, VIS 40.
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SERVICE RIG.
	14:30 - 17:00	2.50	DRLPRO	02	D	P		ROTATE '8256'-8437' (181') 72.4'/HR 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 100-410 UNITS, CG- 1100-2200 UNITS, MW 11.8, VIS 40.
	17:00 - 17:30	0.50	DRLPRO	08	B	Z		INSTALL 24/12V CONVERTER IN RIG SMART.
	17:30 - 22:30	5.00	DRLPRO	02	D	P		ROTATE 8437'-8765' (328') 65.6'/HR 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 150-500 UNITS, CG- 1100-2200 UNITS, MUD CUT TO 10.2 ON CONN., MW 11.8- 12.2, VIS 48.
	22:30 - 23:30	1.00	DRLPRO	05	C	P		CIRCULATE BOTTOMS UP. HOLE STARTED SEEPING 8 BBLS/HR. INC. LCM TO 10%.
	23:30 - 0:00	0.50	DRLPRO	06	E	P		START POOH FOR WIPER TRIP TO THE SHOE.
	0:00 - 7:30	7.50	DRLPRO	06	E	P		WIPER TRIP TO THE SHOE, TIH. LOST 38 BBLS ON TRIP IN THE HOLE.
	7:30 - 9:30	2.00	DRLPRO	05	C	P		CIRCULATE BOTTOMS UP, TRIP GAS 2000 UNITS, MUD CUT TO 11.0 PPG FROM 12.2 PPG, FLARE 8'-10' CIRCULATE 2 BOTTOMS UP.MIX AND PUMP A SLUG.
	9:30 - 14:00	4.50	DRLPRO	06	A	P		TRIP OUT TO LOG.
	14:00 - 14:30	0.50	DRLPRO	14	B	P		PULL THE WEAR BUSHING.
	14:30 - 18:00	3.50	DRLPRO	11	D	P		HELD SAFETY MEETING: RU HALLIBURTON AND RIH WITH TOOLS. LOG WITH TRIPLE COMBO FROM 8759' TO CSG. SHOE. LOG W/ GR TO SURFACE. LAY DOWN TOOLS. UNABLE TO RD DUE TO VFD PROBLEMS AND BLOCKS WILL NOT MOVE.
9/19/2009	18:00 - 20:00	2.00	DRLPRO	08	B	Z		TROUBLE SHOOT AND REPAIR DELTA IN VFD HOUSE.
	20:00 - 20:30	0.50	DRLPRO	11	D	P		RD HALLIBURTON LOGGING.
	20:30 - 21:30	1.00	DRLPRO	12	A	P		HELD SAFETY MEETING, RU TOOLS.
	21:30 - 0:00	2.50	DRLPRO	12	C	P		START RUNNING CASING.
	0:00 - 4:30	4.50	DRLPRO	12	C	P		RUN CSG. AS FOLLOWS: FLOAT SHOE, 1 JT. CSG. FLOAT COLLAR, 104 JTS. I-80 BTC. CSG. MARKER JT. SET AT 4212', 98 JTS. 4 1/2" 11.6 PPF I-80 BTC CSG. OAL 8747', SET AT 8747'. CENTRALIZED WITH 15 BOW SPRINGS, 1 ON FIRST 3 JTS. THEN EVERY 3RD JT. SPACE OUT, PU MANDREL HANGER.
	4:30 - 6:30	2.00	DRLPRO	05	D	P		CIRCULATE BOTTOMS UP WITH RIG PUMP.
								HELD SAFETY MEETING WITH BJ CEMENTERS.

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]			Spud Conductor: 7/31/2009			Spud Date: 8/5/2009		
Project: UTAH-UINTAH			Site: NBU 922-36G PAD			Rig Name No: PROPETRO/, ENSIGN 145/145		
Event: DRILLING			Start Date: 7/21/2009			End Date: 9/19/2009		
Active Datum: RKB @4,977.00ft (above Mean Sea Level)			UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:30 - 9:30	3.00	DRLPRO	12	E	P		SWITCH TO BJ, TEST LINES TO 5000 CEMENT 4 1/2" AS FOLLOWS: 40 BBLS WATER, LEAD W/ 515 SKS PL2 MIXED @ 12.2 PPG, YIELD 2.37, TAIL W/ 1100 SKS 50:50 POZ MIXED @ 14.3PPG, YIELD 1.31, WASH LINES, DROP PLUG & DISPLACE W/135 BBLS WATER W/ CLAYSTAY & MAGNACIDE TO BUMP PLUG W/ 3500 PSI. HAD 30 BBLS CEMENT TO SURFACE. RELEASE PSI, FLOATS HELD
	9:30 - 10:30	1.00	DRLPRO	12	B	P		FLUSH STACK, LAND CSG. WITH 90K (60K W/O BLKS) RD BJ, REMOVE LANDING JOINT.
	10:30 - 13:00	2.50	DRLPRO	14	A	P		ND BOP. CLEAN PITS. RELEASE RIG @ 13:00 HRS. 9-19-2009

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH	Site: NBU 922-36G PAD		Rig Name No:
Event: COMPLETION	Start Date: 10/30/2009	End Date: 11/10/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
10/31/2009	10:00 - 10:15	0.25	COMP	48		P		HSM
	10:15 - 18:00	7.75	COMP	47	C	P		MIRU, N/D WELL HEAD, N/U BOPS, P/U 3-7/8 BIT, W/ 2-3/8 TBG, RIH TAG @ 8673', P/U PWR SWL, EST CIRC, DRL OUT WIPING PLUG & 60' CEMENT TO 8736' CIRC WELL CLEAN, L/D PWR SWWL, L/D 1500' TBG ON TRAILER, SWIFN.
11/1/2009	7:00 - 7:15	0.25	COMP	48		P		HSM
	7:15 - 20:31	13.27	COMP	47	C	P		POOH W/ 2-3/8 TBG & BIT, L/D ON TRAILER, RDMO.
11/2/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, WIRE LINE
	7:15 - 17:00	9.75	COMP	36	E	P		N/U FRAC VALVES, P/T CSG TO 7500#, MIRU CASED HOLE SOLUTIONS, P/U RIIH W/ 3-3/8 EXPAND, 23 GRM, 0.36" HOLE, PERF MESAVERDE, 8702'-8706' 4 SPF, 90* PH, 12 HOLES. 8680'-8683' 4 SPF, 90* PH, 12 HOLES. 8640'-8642' 4 SPF, 90* PH, 8 HOLES. 8592'-8594' 4 SPF, 90* PH, 8 HOLES. [44 HOLES] POOH SWIFN.
11/3/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, PERF & FRAC
	7:15 - 17:30	10.25	COMP	36	E	P		FRAC STG #1] MESAVERDE 8592'-8706' [44 HOLES]  WHP=680#, BRK DN PERFS @ 3893#, INJ PSI=5150#, INJT RT=50, ISIP=2320#, FG=70, PUMP 1297 BBLs SLK WTR W/ 41368# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2766#, FG=75, AR=51.2, AP=3941#, MR=51.8, MP=6154#, NPI=446#, 31/44 CALC PERFS OPEN. 70%  STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8508', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8474'-8478' 4 SPF, 90* PH, 16 HOLES. 8394'-8400' 4 SPF, 90* PH, 24 HOLES. [40 HOLES]  WHP=1822#, BRK DN PERFS @ 3159#, INJ PSI=4650#, INJT RT=50, ISIP=2467#, FG=73, PUMP 1081 BBLs SLK WTR W/ 39175# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2535#, FG=73, AR=50.5, AP=4130#, MR=50.7, MP=5190#, NPI=68#, 40/40 CALC PERFS OPEN. 100%  STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8329', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8296'-8299' 4 SPF, 90* PH, 12 HOLES. 8247'-8249' 4 SPF, 90* PH, 8 HOLES. 8188'-8190' 4 SPF, 90* PH, 8 HOLES. 8148'-8150' 4 SPF, 90* PH, 8 HOLES. [44 HOLES] HSM,
11/4/2009	7:00 - 7:15	0.25	COMP	48		P		HSM,

RECEIVED November 19, 2009

# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH		Site: NBU 922-36G PAD	Rig Name No:
Event: COMPLETION		Start Date: 10/30/2009	End Date: 11/10/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:15 - 18:00	10.75	COMP	36	E	P		<p>FRAC STG #3] MESAVERDE 8131'-8299' [44 HOLES]</p> <p>WHP=1973#, BRK DN PERFS @ 3520#, INJ PSI=3970#, INJT RT=50.5, ISIP=2367#, FG=.72, PUMP 1372 BBLS SLK WTR W/ 51661# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2540#, FG=.74, AR=50.4, AP=3746#, MR=50.8, MP=5661#, NPI=173#, 44/44 CALC PERFS OPEN. 100%</p> <p>STG #4] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 8093', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8060'-8063' 4 SPF, 90* PH, 9 HOLES. 7958'-7962' 4 SPF, 90* PH, 12 HOLES. 7930'-7932' 4 SPF, 90* PH, 6 HOLES. 7890'-7894' 4 SPF, 90* PH, 16 HOLES. [43 HOLES]</p> <p>WHP=1350#, BRK DN PERFS @ 3130#, INJ PSI=4310#, INJT RT=50, ISIP=1840#, FG=.66, PUMP 3275 BBLS SLK WTR W/ 121038# 30/50 MESH W/ NO RESIN COAT IN TAIL, [  SCREENED OUT FLOWED WELL BACK FOR 15 MIN. REFLUSHED @ 30 BPM W/ CSG VOLUME]  ISIP=2671#, FG=.74, AR=49.1, AP=4213#, MR=53.9, MP=6124#, NPI=831#, 35 /43 CALC PERFS OPEN. 81%</p> <p>STG #5] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7816', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7784'-7786' 4 SPF, 90* PH, 6 HOLES. 7754'-7756' 4 SPF, 90* PH, 6 HOLES. 7700'-7702' 4 SPF, 90* PH, 6 HOLES. 7650'-7654' 4 SPF, 90* PH, 16 HOLES. 7572'-7574' 4 SPF, 90* PH, 8 HOLES. [42 HOLES]</p> <p>WHP=117#, BRK DN PERFS @ 2520#, INJ PSI=4310#, INJT RT=50, ISIP=1982#, FG=.69, PUMP 1054 BBLS SLK WTR W/ 36427# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2114#, FG=.71, AR=51, AP=3645#, MR=52.8, MP=6095#, NPI=132#, 27/42 CALC PERFS OPEN. 64%</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7534', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7501'-7504' 4 SPF, 90* PH, 12 HOLES. 7446'-7448' 4 SPF, 90* PH, 8 HOLES. 7418'-7420' 4 SPF, 90* PH, 8 HOLES. 7295'-7297' 4 SPF, 90* PH, 8 HOLES. 7262'-7264' 4 SPF, 90* PH, 8 HOLES. [44 HOLES]</p> <p>WHP=1910#, BRK DN PERFS @ 2514#, INJ PSI=3900#, INJT RT=50, ISIP=1965#, FG=.70, PUMP 1335 BBLS SLK WTR W/ 51144# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2203#, FG=.73, AR=51.5, AP=3480#, MR=55.4, MP=5178#, NPI=238#, 44/44 CALC PERFS OPEN. 100%</p> <p>STG #7] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7050', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7016'-7020' 3 SPF, 120* PH, 12 HOLES.</p>

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009		Spud Date: 8/5/2009	
Project: UTAH-UINTAH		Site: NBU 922-36G PAD			Rig Name No:
Event: COMPLETION		Start Date: 10/30/2009		End Date: 11/10/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
11/5/2009	7:00 - 7:15	0.25	COMP	48		P		6940'-6942'-4 SPF, 90* PH, 8 HOLES.
	7:15 - 17:00	9.75	COMP	36	E	P		6882'-6886' 4 SPF, 90* PH, 16 HOLES 6862'-6864' 3 SPF, 120* PH, 6 HOLES. [42 HOLES] HSM, FRAC STG #7] MESAVERDE 6862'-7020' [42 HOLES]  WHP=597#, BRK DN PERFS @ 2307#, INJ PS=3615#, INJT RT=51.8, ISIP=1515#, FG=65, PUMP 1100 BBLS SLK WTR W/ 41839# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2244#, FG=76, AR=51.5, AP=3485#, MR=52, MP=4045#, NPI=729#, 42/42 CALC PERFS OPEN. 100%  STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6782', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 6748'-6752' 4 SPF, 90* PH, 16 HOLES. 6731'-6734' 4 SPF, 90* PH, 12 HOLES. 6720'-6723' 4 SPF, 90* PH, 12 HOLES. [40 HOLES]  WHP=485#, BRK DN PERFS @ 3053#, INJ PS=3568#, INJT RT=50, ISIP=1373#, FG=64, PUMP 1412 BBLS SLK WTR W/ 55693# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2041#, FG=74, AR=51.9, AP=3172#, MR=52.5, MP=3580#, NPI=668#, 40/40 CALC PERFS OPEN. 100%  P/U HALIBURTON 8K CBP SET @ 6670' FOR KILL PLUG. SWI. RIG DWN, RIG UP MIRU, ND FRAC VALVE, NU BOP'S, TEST TO 3000#.RIH TBG TO 6670', TAG PLUG # 1 PLUG #1 6670' 30' SAND 6 MIN 0# KICK PLUG #2 6782' 20' SAND 7 MIN 500# KICK PLUG #3 7050' 35' SAND 15 MIN 700# KICK EOT 7088' TURNED WELL TO FLOW BACK CREW FOR NIGHT. DRILLING PLUGS DRILL PLUG PLUG #4 7534' 30' SAND 10 MIN 400# KICK PLUG #5 7816' 40' SAND 8 MIN 300# KICK PLUG #6 8093' 30' SAND 10 MIN 500# KICK PLUG #7 8329' 30' SAND 15 MIN 800# KICK PLUG #8 8508' 40' SAND 10 MIN 600# KICK RIH WITH 277 JTS TBG, 8702' PBD CLEAN OUT CIRC BTMS UP,LAY DWN 12 JTS TO 8359.22" LAND TBG.265 JT TBG 4.7# J-55, XN SN 1.875" ND BOP'S, NU WH, PUMP OFF BIT SUB, TURN WELL TO FLOW BACK CREW,EOT 8359.22' RDMO TO NBU 922-36H2AS PAD WELL. 7 AM FLBK REPORT: CP 2900#, TP 2100#, 20/64" CK, 50 BWPH, HEAVY SAND,LIGHT GAS TTL BBLS RECOVERED: 3420 BBLS LEFT TO RECOVER: 9469 WELL TURNED TO SALE @ 1400 HR IN 11/11/09 - FTP 3200#, CP 1850#, 2300 MCFD, 45 BWPD, 18/64 CK
11/9/2009	7:00 - 7:30	0.50	COMP	48		P		
	7:30 - 17:00	9.50	COMP	44		P		
11/10/2009	7:00 - 7:30	0.50	COMP	48		P		
	7:30 - 13:00	5.50	COMP	44		P		
11/11/2009	7:00 -			33	A			
	14:00 -		PROD	50				

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# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]			Spud Conductor: 7/31/2009				Spud Date: 8/5/2009			
Project: UTAH-UINTAH			Site: NBU 922-36G PAD					Rig Name No:		
Event: COMPLETION			Start Date: 10/30/2009				End Date: 11/10/2009			
Active Datum: RKB @4,977.00ft (above Mean Sea Level)				UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
11/12/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2900#, TP 2150#, 18/64" CK, 35 BWPH, HEAVY SAND, - GAS TTL BBLS RECOVERED: 4250 BBLS LEFT TO RECOVER: 8639		
11/13/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2750#, TP 2075#, 18/64" CK, 30 BWPH, MEDIUM SAND, - GAS TTL BBLS RECOVERED: 5065 BBLS LEFT TO RECOVER: 7824		
11/14/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2700#, TP 2100#, 16/64" CK, 25 BWPH, MEDIUM SAND, - GAS TTL BBLS RECOVERED: 5665 BBLS LEFT TO RECOVER: 7224		
11/15/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2650#, TP 2050#, 16/64" CK, 20 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 6155 BBLS LEFT TO RECOVER: 6734		

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STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8  
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:  
ML 22650

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:  
NBU 922-36G1T

9. API NUMBER:  
4304750393

10. FIELD AND POOL, OR WILDCAT  
NATURAL BUTTES

11. QTR/QTR, SECTION, TOWNSHIP, RANGE,  
MERIDIAN:  
SWNE 36 9S 22E

12. COUNTY  
UINTAH

13. STATE  
UTAH

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER

b. TYPE OF WORK: NEW WELL ☒ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR:  
KERR MCGEE OIL & GAS ONSHORE LP

3. ADDRESS OF OPERATOR:  
P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217

PHONE NUMBER:  
(720) 929-6100

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: SWNE 1812 FNL & 1512 FEL

AT TOP PRODUCING INTERVAL REPORTED BELOW:

AT TOTAL DEPTH: 1802 FNL 1537 FEL SWNE S-36 TOPS R22 E

14. DATE SPUDDED: 7/31/2009 15. DATE T.D. REACHED: 9/17/2009 16. DATE COMPLETED: 11/11/2009  
ABANDONED ☐ READY TO PRODUCE ☒

17. ELEVATIONS (DF, RKB, RT, GL):  
4964' GL

18. TOTAL DEPTH: MD 8,765  
TVD 8,763

19. PLUG BACK T.D.: MD 8,701  
TVD 8,699

20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE MD  
PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

GR/CBL-ACRT/SDL/DSN-BHV

23.

WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)  
WAS DST RUN? NO ☒ YES ☐ (Submit report)  
DIRECTIONAL SURVEY? NO ☒ YES ☒ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		2,073		550			
7 7/8"	4 1/2 I-80	11.6#		8,746		1615			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,359							

26. PRODUCING INTERVALS

WSMUD

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,720	8,706			6,720 8,706	0.36	339	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6,720-8,706	PMP 12,279 BBLS SLICK H2O & 438,345 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☐ DIRECTIONAL SURVEY  
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS:

PROD

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## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 11/11/2009		TEST DATE: 11/14/2009		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF: 2,161	WATER – BBL: 490	PROD. METHOD: FLOWING
CHOKE SIZE: 16/64	TBG. PRESS. 2,050	CSG. PRESS. 2,650	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF: 2,161	WATER – BBL: 490	INTERVAL STATUS: PROD

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,179				
MAHOGANY	1,831				
WASATCH	4,387	6,535			
MESAVERDE	6,560	8,730			

## 35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED TO THIS COMPLETION REPORT IS THE CHRONOLOGICAL WELL HISTORY AND EOWR.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDY LYTLETITLE REGULATORY ANALYSTSIGNATURE DATE 12/3/2009

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

# US ROCKIES REGION

## Operation Summary Report

Well: NBU 922-36G1T [BLUE]	Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH	Site: NBU 922-36G PAD	Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING	Start Date: 7/21/2009	End Date: 9/19/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)	UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/5/2009	1:30 - 3:00	1.50	MIRU	01	B	P		RURT
	3:00 - 5:30	2.50	DRLSUR	02	A	P		HAMMER DRILL F/40 TO 180'
	5:30 - 8:30	3.00	DRLSUR	06	A	P		POOH L/D HAMMER P/U DIR TOOLS ,TIH
	8:30 - 9:00	0.50	DRLSUR	02	D	P		DIR DRILL F/180 TO 250'
	9:00 - 12:00	3.00	DRLSUR	08	A	Z		REPAIR BRAKES
	12:00 - 0:00	12.00	DRLSUR	02	D	P		DIR DRILL F/250 TO 1450,NUDGE 1.5 ,,@270 AZI,,SURVEY EVERY 90',AVG 100'/HR
8/6/2009	0:00 - 9:30	9.50	DRLSUR	02	D	P		DIR DRILL F/1450 TO 2090,SURVEY EVERY 90'
	9:30 - 10:00	0.50	DRLSUR	05	C	P		CIRC F/CSG RUN
	10:00 - 13:00	3.00	DRLSUR	06	A	P		LDDP ,BHA & DIR TOOLS
	13:00 - 16:00	3.00	CSG	12	C	P		RUN 47 JTS 9.625 #36 CSG TO 2060'
	16:00 - 16:30	0.50	RDMO	01	E	P		RIG RELEASE 16:30 PM 8/6/09,
9/12/2009	18:00 - 20:00	2.00	DRLPRO	01	E	P		RD FLOW LINES & EQUIPMENT, MAKE RIG READY TO WALK
	20:00 - 20:30	0.50	DRLPRO	01	C	P		WALK RIG
	20:30 - 22:30	2.00	DRLPRO	14	A	P		NU BOP & WELL HEAD
	22:30 - 23:30	1.00	DRLPRO	15	A	P		RU TESTER
	23:30 - 0:00	0.50	DRLPRO	15	A	P		TEST BOP
9/13/2009	0:00 - 3:00	3.00	DRLPRO	15	A	P		TEST BOP-250 LOW/5000 HIGH, ANNULAR 2500
	3:00 - 4:30	1.50	DRLPRO	06	A	P		MU BIT,BHA, ORIENT TOOLS
	4:30 - 6:30	2.00	DRLPRO	06	A	P		TIH, TAG CMT AT 1984/
	6:30 - 7:00	0.50	DRLPRO	23	B	P		PRE-SPUD CHECKLIST, RIG SAFETY INSPECTION
	7:00 - 8:00	1.00	DRLPRO	08	B	Z		TROUBLE SHOOT & RIG SMART SYSTEM
	8:00 - 11:30	3.50	DRLPRO	02	D	P		DRILL CMT TO SHOE AT 2015, DRILL ON FLOAT SHOE, MOTOR QUIT DRILLING, LOST DIFFERENTIAL, LOST TORQUE, DRILLED THRU SEVERAL PARAMETERS BUT COULD NOT GET DRILLING
	11:30 - 13:00	1.50	DRLPRO	06	H	Z		TRIP FOR MUD MOTOR
	13:00 - 14:00	1.00	DRLPRO	06	H	Z		DIR WORK, BREAK OUT AND LAY DOWN MOTOR
	14:00 - 14:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	14:30 - 16:00	1.50	DRLPRO	06	A	Z		DIR WORK, PU MOTOR, MAKE UP BHA, ORIENT TOOLS
	16:00 - 17:30	1.50	DRLPRO	06	A	Z		TIH TAG SHOE AT 2015
	17:30 - 18:30	1.00	DRLPRO	02	F	P		DRILL OUT SHOE, DRILL AHEAD
	18:30 - 20:00	1.50	DRLPRO	02	D	P		DRILL& SLIDE 2015-2202, WOB- 17-22, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1286/1204, DIFF-370-415, RPM-133, TORQUE ON/OFF BOTTOM-8/2, MW-8.4, VIS-26, BGG-48-230, ROP-198
	20:00 - 20:30	0.50	DRLPRO	08	B	Z		WORK ON RIG SMART SYSTEM
	20:30 - 0:00	3.50	DRLPRO	02	D	P		DRILL& SLIDE 2202-2485, WOB- 17-22, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1286/1204, DIFF-370-415, RPM-133, TORQUE ON/OFF BOTTOM-8/2, MW-8.4, VIS-26, BGG-48-230, ROP-204

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009		Spud Date: 8/5/2009	
Project: UTAH-UINTAH		Site: NBU 922-36G PAD			Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING		Start Date: 7/21/2009		End Date: 9/19/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)			UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/14/2009	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL & SLIDE 2485 - 4299, WOB- 17-24, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-1971/1892, DIFF-375-530, RPM-1149, TORQUE ON/OFF BOTTOM-8/4, MW-8.4, VIS-26, BGG-185/960, ROP-246
	12:00 - 12:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL & SLIDE 4299- 6202, WOB- 17-24, #1 SPM-57, #2 SPM-57, GPM-438, SPP ON/OFF BOTTOM-2015/1892, DIFF-435-550, RPM-149, TORQUE ON/OFF BOTTOM-12/6, MW-8.4, VIS-26, BGG-224/960, ROP-246
9/15/2009	0:00 - 14:00	14.00	DRLPRO	02	D	P		DRILL & SLIDE 6202 - 7560, WOB- 17-24, #1 SPM-60, #2 SPM-59, GPM-456, SPP ON/OFF BOTTOM-1971/1892, DIFF-375-530, RPM-147, TORQUE ON/OFF BOTTOM-13/7, MW-8.4, VIS-26, BGG-185/1800, ROP-168, 5-10' FLARE
	14:00 - 14:30	0.50	DRLPRO	07	A	P		LUBRICATE RIG
	14:30 - 22:30	8.00	DRLPRO	02	D	P		DRILL & SLIDE 7560- 7987, WOB- 17-24, #1 SPM-60, #2 SPM-59, GPM-456, SPP ON/OFF BOTTOM-2661/2510, DIFF-375-530, RPM-147, TORQUE ON/OFF BOTTOM-12/9, MW-10.3, VIS-44, BGG-330-680, ROP-168, 5-7' FLARE
9/16/2009	22:30 - 0:00	1.50	DRLPRO	22	N	X		TOOK KICK, SHUT IN WELL, STABILIZE PSI- AT 575. CALCULATE KILL WT MUD - 11.7, MIXING BAR
	0:00 - 2:30	2.50	DRLPRO	22	N	X		SHUT IN WELL, STABILIZE PSI
	2:30 - 3:30	1.00	DRLPRO	22	N	X		START KILL PROCEDURE, LOST SSP, PUMPED 138 BBLs 11.7 MUD AROUND BIT
	3:30 - 6:30	3.00	DRLPRO	05	B	X		BUILD VOLUME, RAISE MUD WT TO 11.8
	6:30 - 7:00	0.50	DRLPRO	05	A	X		OPEN CSG, ALLOW WELL TO U-TUBE AND EQUILIZE
	7:00 - 12:30	5.50	DRLPRO	05	I	X		START PUMPING 11.8 MUD, CATCH FLUID, REGAIN RETURNS, PUMP SURFACE TO SURFACE, 4776 STROKES, LOSING RETURNS ON AND OFF THROUGHOUT CIRCULATION, MIXING LCM, CONTINUE SLOW CIRCULATION TO HEAL UP LOSSES. MIX LCM TO 6%, OPEN CHOKE, 20'-40' FLARE. PP 104 SPM @ 930 PSI, CHANGE PUMPS, 104 SPM @ 2060 PSI. CIRCULATED 6% LCM AROUND. TAKE NEW SPR WITH 11.7 PPG. 40 @ 500 PSI.
	12:30 - 13:30	1.00	DRLPRO	02	D	P		DRILL 7987'-8013' (26') 26'/HR. WOB- 20-24, (1 PUMP @ 397 GPM) WORK ON #1 PUMP, SPP 2000-2250, DIFF-200-250, RPM-119, TORQUE ON/OFF BOTTOM-12/9, BGG-280-400 MW-11.7, VIS-40,
	13:30 - 14:00	0.50	DRLPRO	07	A	P		SERVICE RIG, WORK ON #1 PUMP.
	14:00 - 17:00	3.00	DRLPRO	02	D	P		DRILL 8013'-8078' (65') 21.6'/HR. WOB- 22-24, 458 GPM, SPP 2250-2750, DIFF-200-500, RPM-147, TORQUE ON/OFF BOTTOM-12/9, BGG-80-400 MW-11.7, VIS-40, DIFF FELL OFF TO 160 W/ 24K WOB @ 4.5'/HR.
	17:00 - 18:00	1.00	DRLPRO	05	C	P		NOTE: AT 8036' PICO DROPPED 43K WOB WHILE DRILLING.
9/17/2009	18:00 - 23:30	5.50	DRLPRO	06	A	P		CIRCULATE BOTTOMS UP.
	23:30 - 0:00	0.50	DRLPRO	06	A	P		POOH DUE TO SLOW P-RATE. BIT IS DBR. LAY DOWN DIRECTIONAL TOOLS. FUNCTION BLIND RAMS, CHECK COM.
	0:00 - 1:30	1.50	DRLPRO	06	A	P		PU NEW FMHX655ZM PDC ON 1.5 BH, .16 RPG MOTOR.
								TIH TO THE SHOE. FILL AND BREAK CIRC.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH	Site: NBU 922-36G PAD		Rig Name No: PROPETRO/, ENSIGN 145/145
Event: DRILLING	Start Date: 7/21/2009	End Date: 9/19/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/18/2009	1:30 - 4:30	3.00	DRLPRO	09	A	P		SLIP AND CUT 306' DRILL LINE.
	4:30 - 6:00	1.50	DRLPRO	08	B	Z		REPAIR RIG SMART, CHANGE OUT R.F.I.D. READER. (ANTI COLLISION DEVICE)
	6:00 - 9:30	3.50	DRLPRO	06	A	P		BREAK CIRCULATION, TIH. LOST 63 BBLS MUD ON THE TRIP IN.
	9:30 - 10:30	1.00	DRLPRO	03	A	P		REAM 95' TO BOTTOM. LAST 30' APPEARS TO BE UNDERGUAGE. BIT TAKING 6K WOB TO REAM. TRIP GAS 2500 UNITS, 20'-25' FLARE.
	10:30 - 14:00	3.50	DRLPRO	02	D	P		ROTATE 8078'-8256' (178') 50.8'/HR. 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 100-410 UNITS, CG- 1100 UNITS, MW 11.8, VIS 40.
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SERVICE RIG.
	14:30 - 17:00	2.50	DRLPRO	02	D	P		ROTATE '8256'-8437' (181') 72.4'/HR 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 100-410 UNITS, CG- 1100-2200 UNITS, MW 11.8, VIS 40.
	17:00 - 17:30	0.50	DRLPRO	08	B	Z		INSTALL 24/12V CONVERTER IN RIG SMART.
	17:30 - 22:30	5.00	DRLPRO	02	D	P		ROTATE 8437'-8765' (328') 65.6'/HR 18-22K WOB, 130 BIT RPM, 460 GPM 2400-2900 PSI. 300-500 DIFF. BGG 150-500 UNITS, CG- 1100-2200 UNITS, MUD CUT TO 10.2 ON CONN., MW 11.8- 12.2, VIS 48.
	22:30 - 23:30	1.00	DRLPRO	05	C	P		CIRCULATE BOTTOMS UP. HOLE STARTED SEEPING 8 BBLS/HR. INC. LCM TO 10%.
	23:30 - 0:00	0.50	DRLPRO	06	E	P		START POOH FOR WIPER TRIP TO THE SHOE.
	0:00 - 7:30	7.50	DRLPRO	06	E	P		WIPER TRIP TO THE SHOE, TIH. LOST 38 BBLS ON TRIP IN THE HOLE.
	7:30 - 9:30	2.00	DRLPRO	05	C	P		CIRCULATE BOTTOMS UP, TRIP GAS 2000 UNITS, MUD CUT TO 11.0 PPG FROM 12.2 PPG, FLARE 8'-10' CIRCULATE 2 BOTTOMS UP.MIX AND PUMP A SLUG.
	9:30 - 14:00	4.50	DRLPRO	06	A	P		TRIP OUT TO LOG.
	14:00 - 14:30	0.50	DRLPRO	14	B	P		PULL THE WEAR BUSHING.
	14:30 - 18:00	3.50	DRLPRO	11	D	P		HELD SAFETY MEETING: RU HALLIBURTON AND RIH WITH TOOLS. LOG WITH TRIPLE COMBO FROM 8759' TO CSG. SHOE. LOG W/ GR TO SURFACE. LAY DOWN TOOLS. UNABLE TO RD DUE TO VFD PROBLEMS AND BLOCKS WILL NOT MOVE.
	18:00 - 20:00	2.00	DRLPRO	08	B	Z		TROUBLE SHOOT AND REPAIR DELTA IN VFD HOUSE.
9/19/2009	20:00 - 20:30	0.50	DRLPRO	11	D	P		RD HALLIBURTON LOGGING.
	20:30 - 21:30	1.00	DRLPRO	12	A	P		HELD SAFETY MEETING, RU TOOLS.
	21:30 - 0:00	2.50	DRLPRO	12	C	P		START RUNNING CASING.
	0:00 - 4:30	4.50	DRLPRO	12	C	P		RUN CSG. AS FOLLOWS: FLOAT SHOE, 1 JT. CSG. FLOAT COLLAR, 104 JTS. I-80 BTC, CSG. MARKER JT. SET AT 4212', 98 JTS. 4 1/2" 11.6 PPF I-80 BTC CSG. OAL 8747', SET AT 8747'.
	4:30 - 6:30	2.00	DRLPRO	05	D	P		CENTRALIZED WITH 15 BOW SPRINGS, 1 ON FIRST 3 JTS. THEN EVERY 3RD JT. SPACE OUT, PU MANDREL HANGER. CIRCULATE BOTTOMS UP WITH RIG PUMP. HELD SAFETY MEETING WITH BJ CEMENTERS.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009		Spud Date: 8/5/2009	
Project: UTAH-UINTAH		Site: NBU 922-36G PAD		Rig Name No: PROPETRO/, ENSIGN 145/145	
Event: DRILLING		Start Date: 7/21/2009		End Date: 9/19/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:30 - 9:30	3.00	DRLPRO	12	E	P		SWITCH TO BJ, TEST LINES TO 5000 CEMENT 4 1/2" AS FOLLOWS: 40 BBLS WATER, LEAD W/ 515 SKS PL2 MIXED @ 12.2 PPG, YIELD 2.37, TAIL W/ 1100 SKS 50:50 POZ MIXED @ 14.3PPG, YIELD 1.31, WASH LINES, DROP PLUG & DISPLACE W/135 BBLS WATER W/ CLAYSTAY & MAGNACIDE TO BUMP PLUG W/ 3500 PSI. HAD 30 BBLS CEMENT TO SURFACE. RELEASE PSI, FLOATS HELD
	9:30 - 10:30	1.00	DRLPRO	12	B	P		FLUSH STACK, LAND CSG. WITH 90K (60K W/O BLKS) RD BJ, REMOVE LANDING JOINT.
	10:30 - 13:00	2.50	DRLPRO	14	A	P		ND BOP. CLEAN PITS. RELEASE RIG @ 13:00 HRS. 9-19-2009

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]			Spud Conductor: 7/31/2009			Spud Date: 8/5/2009		
Project: UTAH-UINTAH			Site: NBU 922-36G PAD				Rig Name No:	
Event: COMPLETION			Start Date: 10/30/2009				End Date: 11/10/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)			UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
10/31/2009	10:00 - 10:15	0.25	COMP	48		P		HSM
	10:15 - 18:00	7.75	COMP	47	C	P		MIRU, N/D WELL HEAD, N/U BOPS, P/U 3-7/8 BIT, W/ 2-3/8 TBG, RIH TAG @ 8673', P/U PWR SWL, EST CIRC, DRL OUT WIPING PLUG & 60' CEMENT TO 8736' CIRC WELL CLEAN, L/D PWR SWVL, L/D 1500' TBG ON TRAILER, SWIFN.
11/1/2009	7:00 - 7:15	0.25	COMP	48		P		HSM
	7:15 - 20:31	13.27	COMP	47	C	P		POOH W/ 2-3/8 TBG & BIT, L/D ON TRAILER, RDMO.
11/2/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, WIRE LINE
	7:15 - 17:00	9.75	COMP	36	E	P		N/U FRAC VALVES, P/T CSG TO 7500#, MIRU CASED HOLE SOLUTIONS, P/U RIH W/ 3-3/8 EXPAND, 23 GRM, 0.36" HOLE, PERF MESAVERDE, 8702'-8706' 4 SPF, 90* PH, 12 HOLES. 8680'-8683' 4 SPF, 90* PH, 12 HOLES. 8640'-8642' 4 SPF, 90* PH, 8 HOLES. 8592'-8594' 4 SPF, 90* PH, 8 HOLES. [44 HOLES] POOH SWIFN.
11/3/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, PERF & FRAC
	7:15 - 17:30	10.25	COMP	36	E	P		FRAC STG #1] MESAVERDE 8592'-8706' [44 HOLES]  WHP=680#, BRK DN PERFS @ 3893#, INJ PSI=5150#, INJT RT=50, ISIP=2320#, FG=.70, PUMP 1297 BBLS SLK WTR W/ 41368# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2766#, FG=.75, AR=51.2, AP=3941#, MR=51.8, MP=6154#, NPI=446#, 31/44 CALC PERFS OPEN. 70%  STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8508', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8474'-8478' 4 SPF, 90* PH, 16 HOLES. 8394'-8400' 4 SPF, 90* PH, 24 HOLES. [40 HOLES]  WHP=1822#, BRK DN PERFS @ 3159#, INJ PSI=4650#, INJT RT=50, ISIP=2467#, FG=.73, PUMP 1081 BBLS SLK WTR W/ 39175# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2535#, FG=.73, AR=50.5, AP=4130#, MR=50.7, MP=5190#, NPI=68#, 40/40 CALC PERFS OPEN. 100%  STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8329', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8296'-8299' 4 SPF, 90* PH, 12 HOLES. 8247'-8249' 4 SPF, 90* PH, 8 HOLES. 8188'-8190' 4 SPF, 90* PH, 8 HOLES. 8148'-8150' 4 SPF, 90* PH, 8 HOLES. [44 HOLES] HSM,
11/4/2009	7:00 - 7:15	0.25	COMP	48		P		HSM,

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH		Site: NBU 922-36G PAD	Rig Name No:
Event: COMPLETION		Start Date: 10/30/2009	End Date: 11/10/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:15 - 18:00	10.75	COMP	36	E	P		<p>FRAC STG #3] MESAVERDE 8131'-8299' [44 HOLES]</p> <p>WHP=1973#, BRK DN PERFS @ 3520#, INJ PSI=3970#, INJT RT=50.5, ISIP=2367#, FG=.72, PUMP 1372 BBLS SLK WTR W/ 51661# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2540#, FG=.74, AR=50.4, AP=3746#, MR=50.8, MP=5661#, NPI=173#, 44/44 CALC PERFS OPEN. 100%</p> <p>STG #4] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 8093', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8060'-8063' 4 SPF, 90* PH, 9 HOLES. 7958'-7962' 4 SPF, 90* PH, 12 HOLES. 7930'-7932' 4 SPF, 90* PH, 6 HOLES. 7890'-7894' 4 SPF, 90* PH, 16 HOLES. [43 HOLES]</p> <p>WHP=1350#, BRK DN PERFS @ 3130#, INJ PSI=4310#, INJT RT=50, ISIP=1840#, FG=.66, PUMP 3275 BBLS SLK WTR W/ 121038# 30/50 MESH W/ NO RESIN COAT IN TAIL, [SCREENED OUT FLOWED WELL BACK FOR 15 MIN. REFLUSHED @ 30 BPM W/ CSG VOLUME] ISIP=2671#, FG=.74, AR=49.1, AP=4213#, MR=53.9, MP=6124#, NPI=831#, 35 /43 CALC PERFS OPEN. 81%</p> <p>STG #5] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7816', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7784'-7786' 4 SPF, 90* PH, 6 HOLES. 7754'-7756' 4 SPF, 90* PH, 6 HOLES. 7700'-7702' 4 SPF, 90* PH, 6 HOLES. 7650'-7654' 4 SPF, 90* PH, 16 HOLES. 7572'-7574' 4 SPF, 90* PH, 8 HOLES. [42 HOLES]</p> <p>WHP=117#, BRK DN PERFS @ 2520#, INJ PSI=4310#, INJT RT=50, ISIP=1982#, FG=.69, PUMP 1054 BBLS SLK WTR W/ 36427# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2114#, FG=.71, AR=51, AP=3645#, MR=52.8, MP=6095#, NPI=132#, 27/42 CALC PERFS OPEN. 64%</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7534', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7501'-7504' 4 SPF, 90* PH, 12 HOLES. 7446'-7448' 4 SPF, 90* PH, 8 HOLES. 7418'-7420' 4 SPF, 90* PH, 8 HOLES. 7295'-7297' 4 SPF, 90* PH, 8 HOLES. 7262'-7264' 4 SPF, 90* PH, 8 HOLES. [44 HOLES]</p> <p>WHP=1910#, BRK DN PERFS @ 2514#, INJ PSI=3900#, INJT RT=50, ISIP=1965#, FG=.70, PUMP 1335 BBLS SLK WTR W/ 51144# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2203#, FG=.73, AR=51.5, AP=3480#, MR=55.4, MP=5178#, NPI=238#, 44/44 CALC PERFS OPEN. 100%</p> <p>STG #7] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @ 7050', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7016'-7020' 3 SPF, 120* PH, 12 HOLES.</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009	Spud Date: 8/5/2009
Project: UTAH-UINTAH		Site: NBU 922-36G PAD	Rig Name No:
Event: COMPLETION		Start Date: 10/30/2009	End Date: 11/10/2009
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
11/5/2009	7:00 - 7:15	0.25	COMP	48		P		6940'-6942'-4 SPF, 90* PH, 8 HOLES.
	7:15 - 17:00	9.75	COMP	36	E	P		6882'-6886' 4 SPF, 90* PH, 16 HOLES 6862'-6864' 3 SPF, 120* PH, 6 HOLES. [42 HOLES] HSM, FRAC STG #7] MESAVERDE 6862'-7020' [42 HOLES]  WHP=597#, BRK DN PERFS @ 2307#, INJ PS=3615#, INJT RT=51.8, ISIP=1515#, FG=.65, PUMP 1100 BBLS SLK WTR W/ 41839# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2244#, FG=.76, AR=51.5, AP=3485#, MR=52, MP=4045#, NPI=729#, 42/42 CALC PERFS OPEN. 100%  STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6782', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 6748'-6752' 4 SPF, 90* PH, 16 HOLES. 6731'-6734' 4 SPF, 90* PH, 12 HOLES. 6720'-6723' 4 SPF, 90* PH, 12 HOLES. [40 HOLES]  WHP=485#, BRK DN PERFS @ 3053#, INJ PS=3568#, INJT RT=50, ISIP=1373#, FG=.64, PUMP 1412 BBLS SLK WTR W/ 55693# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2041#, FG=.74, AR=51.9, AP=3172#, MR=52.5, MP=3580#, NPI=668#, 40/40 CALC PERFS OPEN. 100%  P/U HALIBURTON 8K CBP SET @ 6670' FOR KILL PLUG. SWI. RIG DWN, RIG UP MIRU, ND FRAC VALVE, NU BOP'S, TEST TO 3000#.RIH TBG TO 6670', TAG PLUG # 1 PLUG #1 6670' 30' SAND 6 MIN 0# KICK PLUG #2 6782' 20' SAND 7 MIN 500# KICK PLUG #3 7050' 35' SAND 15 MIN 700# KICK EOT 7088' TURNED WELL TO FLOW BACK CREW FOR NIGHT. DRILLING PLUGS DRILL PLUG PLUG #4 7534' 30' SAND 10 MIN 400# KICK PLUG #5 7816' 40' SAND 8 MIN 300# KICK PLUG #6 8093' 30' SAND 10 MIN 500# KICK PLUG #7 8329' 30' SAND 15 MIN 800# KICK PLUG #8 8508' 40' SAND 10 MIN 600# KICK RIH WITH 277 JTS TBG, 8702' PBD CLEAN OUT CIRC BTMS UP,LAY DWN 12 JTS TO 8359.22' LAND TBG.265 JT TBG 4.7# J-55, XN SN 1.875" ND BOP'S, NU WH, PUMP OFF BIT SUB, TURN WELL TO FLOW BACK CREW.EOT 8359.22' RDMO TO NBU 922-36H2AS PAD WELL. 7 AM FLBK REPORT: CP 2900#, TP 2100#, 20/64" CK, 50 BWPH, HEAVY SAND,LIGHT GAS TTL BBLS RECOVERED: 3420 BBLS LEFT TO RECOVER: 9469 WELL TURNED TO SALE @ 1400 HR IN 11/11/09 - FTP 3200#, CP 1850#, 2300 MCFD, 45 BWPD, 18/64 CK
11/9/2009	7:00 - 7:30	0.50	COMP	48		P		
	7:30 - 17:00	9.50	COMP	44		P		
11/10/2009	7:00 - 7:30	0.50	COMP	48		P		
	7:30 - 13:00	5.50	COMP	44		P		
11/11/2009	7:00 -			33	A			
	14:00 -		PROD	50				

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]		Spud Conductor: 7/31/2009		Spud Date: 8/5/2009	
Project: UTAH-UINTAH		Site: NBU 922-36G PAD			Rig Name No:
Event: COMPLETION		Start Date: 10/30/2009		End Date: 11/10/2009	
Active Datum: RKB @4,977.00ft (above Mean Sea Level)		UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
11/12/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2900#, TP 2150#, 18/64" CK, 35 BWPH, HEAVY SAND, - GAS TTL BBLS RECOVERED: 4250 BBLS LEFT TO RECOVER: 8639
11/13/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2750#, TP 2075#, 18/64" CK, 30 BWPH, MEDIUM SAND, - GAS TTL BBLS RECOVERED: 5065 BBLS LEFT TO RECOVER: 7824
11/14/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2700#, TP 2100#, 16/64" CK, 25 BWPH, MEDIUM SAND, - GAS TTL BBLS RECOVERED: 5665 BBLS LEFT TO RECOVER: 7224
	7:30 -		PROD	50				WELL IP'D 11/14/09 - 2161 MCFD, 490 BWPD, CP 2650#, FTP 2050#, CK 16/64", LP 92#, 24 HRS
11/15/2009	7:00 -			33	A			7 AM FLBK REPORT: CP 2650#, TP 2050#, 16/64" CK, 20 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 6155 BBLS LEFT TO RECOVER: 6734



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**NBU 922-36G PAD**

**NBU 922-36G1T**

**NBU 922-36G1T**

**Survey: WFT MWD SVY**

## **Standard Survey Report**

**21 September, 2009**



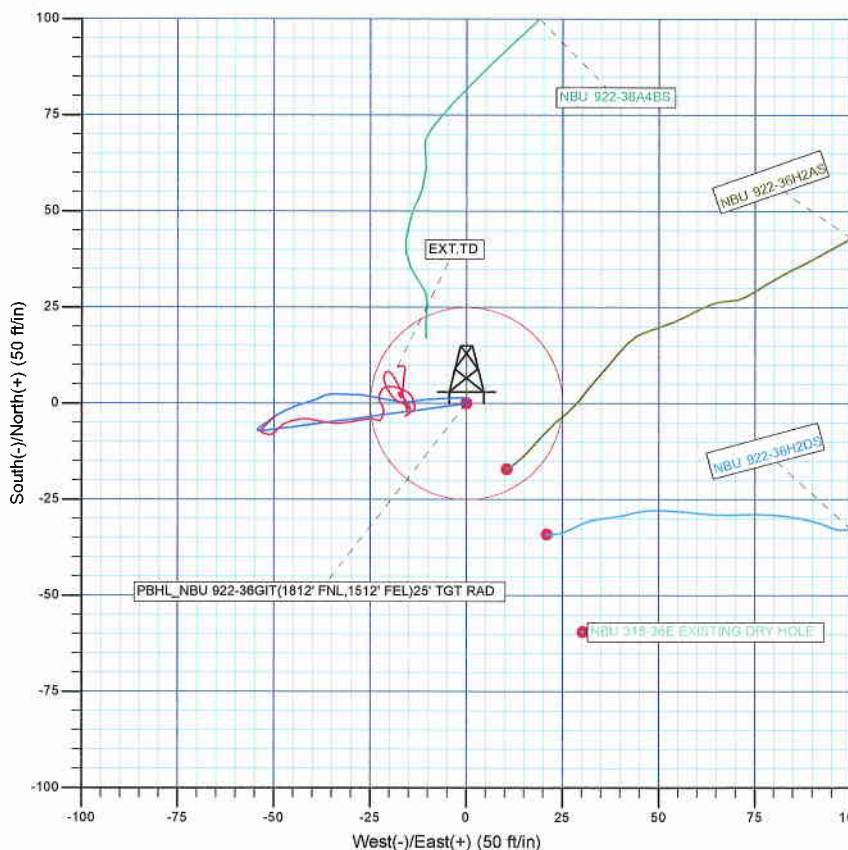
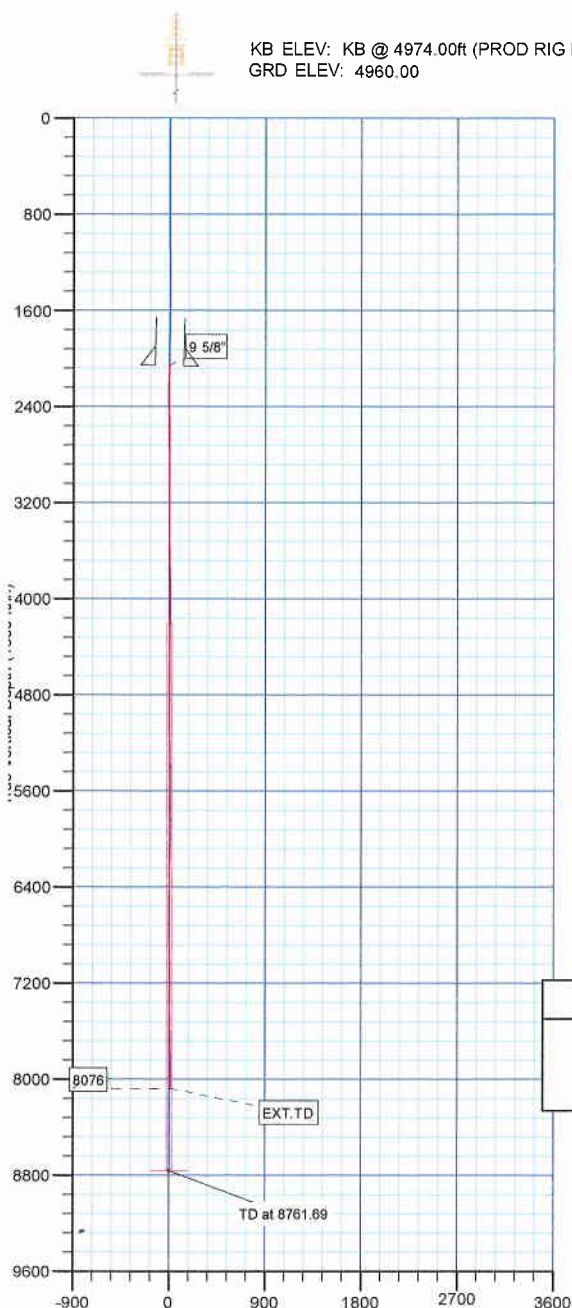


WELL DETAILS: NBU 922-36G1T						
+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude
0.00	0.00	14528262.84	2093142.94	4960.00	39° 59' 41.349 N	109° 23' 1.021 W

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
4204.00	4205.69	GREEN RIVER
7489.00	7490.69	MESAVERDE

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
2047.00	2.08	235.51	2046.21	-3.25	-49.46	0.00	0.00	-3.25		
2160.00	2.08	235.51	2159.14	-5.57	-52.84	0.00	0.00	-5.57		
2344.95	1.72	82.35	2344.05	-7.10	-52.85	2.00	-167.86	-7.10		
4033.49	1.72	82.35	4031.83	-0.34	-2.56	0.00	0.00	-0.34		
4205.69	0.00	0.00	4204.00	0.00	0.00	1.00	180.00	0.00		
8761.69	0.00	0.00	8760.00	0.00	0.00	0.00	0.00	0.00		PBHL_NBU 922-36G1T(1812' FNL,1512' FEL)25' TGT RAD

CASING DETAILS			
TVD	MD	Name	Size
2059.20	2060.00		9 5/8" 9.62



WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
PBHL	Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
		8760.00	0.00	0.00	14528262.84	2093142.94	39° 59' 41.349 N	109° 23' 1.021 W



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**MD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (nad 27),		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36G PAD, SECTION 36 T9S R22E			
<b>Site Position:</b>		<b>Northing:</b>	14,528,229.13 ft	<b>Latitude:</b> 39° 59' 41.012 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,093,164.49 ft	<b>Longitude:</b> 109° 23' 0.752 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b> 1.04 °

<b>Well</b>	NBU 922-36G1T			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,528,262.84 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,093,142.94 ft
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>	4,960.00 ft

<b>Wellbore</b>	NBU 922-36G1T				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	9/3/2009	11.28	65.95	52,530

<b>Design</b>	NBU 922-36G1T ACTUAL			
<b>Audit Notes:</b>				
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	0.00

<b>Survey Program</b>	<b>Date</b> 9/21/2009			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
147.00	2,047.00	SCIENTIFIC MWD SVY (NBU 922-36G1T	MWD	MWD - Standard
2,108.00	8,078.00	WFT MWD SVY (NBU 922-36G1T)	MWD	MWD - Standard

<b>Survey</b>									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,047.00	2.08	235.51	2,046.21	-3.25	-49.46	-3.25	0.00	0.00	0.00
2,108.00	2.42	223.53	2,107.16	-4.81	-51.26	-4.81	0.95	0.56	-19.64
2,164.00	2.08	225.99	2,163.12	-6.37	-52.81	-6.37	0.63	-0.61	4.39
2,232.00	0.75	127.13	2,231.10	-7.50	-53.34	-7.50	3.41	-1.96	-145.38
2,254.00	1.09	100.91	2,253.10	-7.62	-53.02	-7.62	2.42	1.55	-119.18
2,345.00	1.14	109.47	2,344.08	-8.09	-51.31	-8.09	0.19	0.05	9.41
2,436.00	2.92	41.59	2,435.03	-6.66	-48.92	-6.66	2.97	1.96	-74.59
2,526.00	2.09	78.10	2,524.95	-4.60	-45.79	-4.60	1.95	-0.92	40.57
2,617.00	1.51	78.13	2,615.91	-4.01	-43.00	-4.01	0.64	-0.64	0.03
2,707.00	2.35	103.44	2,705.86	-4.20	-40.04	-4.20	1.31	0.93	28.12
2,798.00	2.02	96.30	2,796.79	-4.81	-36.63	-4.81	0.47	-0.36	-7.85
2,888.00	1.88	98.45	2,886.74	-5.20	-33.60	-5.20	0.18	-0.16	2.39

**Company:** ANADARKO PETROLEUM CORP.  
**Project:** Uintah County, Utah (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**MD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,979.00	2.01	70.85	2,977.69	-4.89	-30.61	-4.89	1.03	0.14	-30.33
3,070.00	1.30	87.16	3,068.65	-4.32	-28.07	-4.32	0.93	-0.78	17.92
3,160.00	1.26	77.59	3,158.63	-4.06	-26.09	-4.06	0.24	-0.04	-10.63
3,251.00	0.96	95.23	3,249.61	-3.91	-24.35	-3.91	0.50	-0.33	19.38
3,342.00	0.87	120.42	3,340.60	-4.33	-23.00	-4.33	0.45	-0.10	27.68
3,432.00	1.36	26.63	3,430.59	-3.72	-21.93	-3.72	1.85	0.54	-104.21
3,523.00	1.09	354.36	3,521.57	-1.89	-21.53	-1.89	0.80	-0.30	-35.46
3,613.00	0.75	331.93	3,611.56	-0.52	-21.89	-0.52	0.54	-0.38	-24.92
3,704.00	0.75	322.85	3,702.55	0.48	-22.53	0.48	0.13	0.00	-9.98
3,794.00	1.50	11.35	3,792.53	2.10	-22.65	2.10	1.28	0.83	53.89
3,885.00	0.86	45.79	3,883.51	3.75	-21.93	3.75	1.02	-0.70	37.85
3,976.00	1.08	80.19	3,974.50	4.37	-20.60	4.37	0.67	0.24	37.80
4,066.00	1.03	97.47	4,064.49	4.41	-18.96	4.41	0.36	-0.06	19.20
4,157.00	1.27	111.23	4,155.47	3.94	-17.21	3.94	0.40	0.26	15.12
4,247.00	1.46	125.75	4,245.44	2.90	-15.35	2.90	0.44	0.21	16.13
4,338.00	0.41	159.57	4,336.43	1.92	-14.29	1.92	1.26	-1.15	37.16
4,428.00	0.66	168.63	4,426.42	1.11	-14.08	1.11	0.29	0.28	10.07
4,519.00	1.32	157.12	4,517.41	-0.37	-13.57	-0.37	0.75	0.73	-12.65
4,610.00	1.20	236.44	4,608.39	-1.86	-13.95	-1.86	1.77	-0.13	87.16
4,700.00	1.22	228.90	4,698.37	-3.01	-15.46	-3.01	0.18	0.02	-8.38
4,791.00	0.70	43.10	4,789.37	-3.24	-15.81	-3.24	2.11	-0.57	191.43
4,882.00	0.46	81.17	4,880.37	-2.78	-15.07	-2.78	0.48	-0.26	41.84
4,972.00	0.36	276.96	4,970.36	-2.69	-14.99	-2.69	0.90	-0.11	-182.46
5,063.00	1.69	346.05	5,061.35	-1.35	-15.60	-1.35	1.76	1.46	75.92
5,153.00	1.32	344.54	5,151.32	0.93	-16.20	0.93	0.41	-0.41	-1.68
5,244.00	1.47	337.43	5,242.29	3.02	-16.93	3.02	0.25	0.16	-7.81
5,334.00	1.37	331.96	5,332.26	5.04	-17.87	5.04	0.19	-0.11	-6.08
5,425.00	1.02	330.59	5,423.24	6.70	-18.78	6.70	0.39	-0.38	-1.51
5,516.00	0.74	315.31	5,514.23	7.83	-19.59	7.83	0.40	-0.31	-16.79
5,606.00	0.45	284.21	5,604.23	8.33	-20.35	8.33	0.47	-0.32	-34.56
5,697.00	0.34	224.65	5,695.23	8.22	-20.88	8.22	0.44	-0.12	-65.45
5,787.00	0.63	207.80	5,785.22	7.59	-21.30	7.59	0.36	0.32	-18.72
5,878.00	0.70	179.29	5,876.22	6.60	-21.53	6.60	0.37	0.08	-31.33
5,968.00	0.86	158.12	5,966.21	5.42	-21.27	5.42	0.36	0.18	-23.52
6,059.00	0.96	156.53	6,057.20	4.09	-20.71	4.09	0.11	0.11	-1.75
6,150.00	0.97	144.62	6,148.18	2.76	-19.96	2.76	0.22	0.01	-13.09
6,240.00	1.17	140.79	6,238.17	1.43	-18.94	1.43	0.24	0.22	-4.26
6,331.00	0.72	101.18	6,329.16	0.60	-17.79	0.60	0.84	-0.49	-43.53
6,421.00	0.77	123.48	6,419.15	0.15	-16.73	0.15	0.32	0.06	24.78
6,512.00	0.68	123.87	6,510.14	-0.49	-15.77	-0.49	0.10	-0.10	0.43
6,602.00	0.71	146.47	6,600.14	-1.25	-15.02	-1.25	0.30	0.03	25.11
6,693.00	0.47	342.61	6,691.13	-1.36	-14.82	-1.36	1.28	-0.26	-180.07
6,784.00	0.22	27.69	6,782.13	-0.85	-14.85	-0.85	0.39	-0.27	49.54
6,874.00	1.35	325.85	6,872.12	0.18	-15.37	0.18	1.40	1.26	-68.71
6,965.00	0.93	324.00	6,963.11	1.66	-16.40	1.66	0.46	-0.46	-2.03
7,055.00	0.56	309.16	7,053.10	2.53	-17.17	2.53	0.46	-0.41	-16.49
7,146.00	0.06	347.03	7,144.10	2.86	-17.53	2.86	0.56	-0.55	41.62
7,237.00	0.19	223.53	7,235.10	2.80	-17.64	2.80	0.25	0.14	-135.71
7,327.00	0.44	160.03	7,325.09	2.36	-17.63	2.36	0.44	0.28	-70.56
7,418.00	0.75	140.53	7,416.09	1.58	-17.13	1.58	0.40	0.34	-21.43
7,508.00	1.88	5.03	7,506.08	2.59	-16.63	2.59	2.75	1.26	-150.56
7,599.00	1.38	0.66	7,597.04	5.17	-16.48	5.17	0.57	-0.55	-4.80
7,689.00	1.00	12.28	7,687.02	7.03	-16.30	7.03	0.50	-0.42	12.91
7,780.00	0.88	6.03	7,778.01	8.50	-16.06	8.50	0.17	-0.13	-6.87

**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**MD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,871.00	0.38	345.03	7,869.00	9.48	-16.06	9.48	0.60	-0.55	-23.08
7,961.00	0.63	276.03	7,959.00	9.82	-16.63	9.82	0.68	0.28	-76.67
8,026.00	0.63	251.35	8,023.99	9.75	-17.33	9.75	0.41	0.00	-37.97
EXT.TD									
8,078.00	0.63	251.35	8,075.99	9.56	-17.87	9.56	0.00	0.00	0.00

**Survey Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,078.00	8,075.99	9.56	-17.87	EXT.TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**NBU 922-36G PAD**

**NBU 922-36G1T**

**NBU 922-36G1T**

**Survey: WFT MWD SVY**

## **Survey Report - Geographic**

**21 September, 2009**



**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
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**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

<b>Project</b>	UINTAH COUNTY, UTAH (nad 27),		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site	NBU 922-36G PAD, SECTION 36 T9S R22E				
Site Position:		Northing:	14,528,229.13ft	Latitude:	39° 59' 41.012 N
From:	Lat/Long	Easting:	2,093,164.49ft	Longitude:	109° 23' 0.752 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	1.04 °

Well	NBU 922-36G1T					
Well Position	+N-S	0.00 ft	Northing:	14,528,262.84 ft	Latitude:	39° 59' 41.349 N
	+E-W	0.00 ft	Easting:	2,093,142.94 ft	Longitude:	109° 23' 1.021 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,960.00 ft

<b>Wellbore</b>	NBU 922-36G1T				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	9/3/2009	11.28	65.95	52,530

<b>Design</b>	NBU 922-36G1T ACTUAL				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	0.00	

<b>Survey Program</b>	<b>Date</b> 9/21/2009				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
147.00	2,047.00	SCIENTIFIC MWD SVY (NBU 922-36G1T	MWD	MWD - Standard	
2,108.00	8,078.00	WFT MWD SVY (NBU 922-36G1T)	MWD	MWD - Standard	

**Company:** ANADARKO PETROLEUM CORP.  
**Project:** Uintah County, Utah (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**MD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
2,047.00	2.08	235.51	2,046.21	-3.25	-49.46	14,528,258.70	2,093,093.55	39° 59' 41.317 N	109° 23' 1.657 W
2,108.00	2.42	223.53	2,107.16	-4.81	-51.26	14,528,257.10	2,093,091.78	39° 59' 41.301 N	109° 23' 1.680 W
2,164.00	2.08	225.99	2,163.12	-6.37	-52.81	14,528,255.51	2,093,090.26	39° 59' 41.286 N	109° 23' 1.700 W
2,232.00	0.75	127.13	2,231.10	-7.50	-53.34	14,528,254.38	2,093,089.75	39° 59' 41.275 N	109° 23' 1.706 W
2,254.00	1.09	100.91	2,253.10	-7.62	-53.02	14,528,254.26	2,093,090.07	39° 59' 41.274 N	109° 23' 1.702 W
2,345.00	1.14	109.47	2,344.08	-8.09	-51.31	14,528,253.82	2,093,091.79	39° 59' 41.269 N	109° 23' 1.680 W
2,436.00	2.92	41.59	2,435.03	-6.66	-48.92	14,528,255.30	2,093,094.15	39° 59' 41.283 N	109° 23' 1.650 W
2,526.00	2.09	78.10	2,524.95	-4.60	-45.79	14,528,257.41	2,093,097.24	39° 59' 41.304 N	109° 23' 1.609 W
2,617.00	1.51	78.13	2,615.91	-4.01	-43.00	14,528,258.05	2,093,100.03	39° 59' 41.309 N	109° 23' 1.574 W
2,707.00	2.35	103.44	2,705.86	-4.20	-40.04	14,528,257.92	2,093,102.99	39° 59' 41.308 N	109° 23' 1.536 W
2,798.00	2.02	96.30	2,796.79	-4.81	-36.63	14,528,257.37	2,093,106.40	39° 59' 41.301 N	109° 23' 1.492 W
2,888.00	1.88	98.45	2,886.74	-5.20	-33.60	14,528,257.03	2,093,109.45	39° 59' 41.298 N	109° 23' 1.453 W
2,979.00	2.01	70.85	2,977.69	-4.89	-30.61	14,528,257.39	2,093,112.43	39° 59' 41.301 N	109° 23' 1.414 W
3,070.00	1.30	87.16	3,068.65	-4.32	-28.07	14,528,258.01	2,093,114.95	39° 59' 41.306 N	109° 23' 1.382 W
3,160.00	1.26	77.59	3,158.63	-4.06	-26.09	14,528,258.31	2,093,116.93	39° 59' 41.309 N	109° 23' 1.356 W
3,251.00	0.96	95.23	3,249.61	-3.91	-24.35	14,528,258.49	2,093,118.67	39° 59' 41.310 N	109° 23' 1.334 W
3,342.00	0.87	120.42	3,340.60	-4.33	-23.00	14,528,258.09	2,093,120.03	39° 59' 41.306 N	109° 23' 1.317 W
3,432.00	1.36	26.63	3,430.59	-3.72	-21.93	14,528,258.72	2,093,121.09	39° 59' 41.312 N	109° 23' 1.303 W
3,523.00	1.09	354.36	3,521.57	-1.89	-21.53	14,528,260.55	2,093,121.45	39° 59' 41.330 N	109° 23' 1.298 W
3,613.00	0.75	331.93	3,611.56	-0.52	-21.89	14,528,261.92	2,093,121.07	39° 59' 41.344 N	109° 23' 1.302 W
3,704.00	0.75	322.85	3,702.55	0.48	-22.53	14,528,262.91	2,093,120.41	39° 59' 41.354 N	109° 23' 1.311 W
3,794.00	1.50	11.35	3,792.53	2.10	-22.65	14,528,264.53	2,093,120.26	39° 59' 41.370 N	109° 23' 1.312 W
3,885.00	0.86	45.79	3,883.51	3.75	-21.93	14,528,266.19	2,093,120.95	39° 59' 41.386 N	109° 23' 1.303 W
3,976.00	1.08	80.19	3,974.50	4.37	-20.60	14,528,266.83	2,093,122.27	39° 59' 41.392 N	109° 23' 1.286 W
4,066.00	1.03	97.47	4,064.49	4.41	-18.96	14,528,266.90	2,093,123.91	39° 59' 41.393 N	109° 23' 1.265 W
4,157.00	1.27	111.23	4,155.47	3.94	-17.21	14,528,266.46	2,093,125.67	39° 59' 41.388 N	109° 23' 1.242 W
4,247.00	1.46	125.75	4,245.44	2.90	-15.35	14,528,265.46	2,093,127.55	39° 59' 41.378 N	109° 23' 1.218 W
4,338.00	0.41	159.57	4,336.43	1.92	-14.29	14,528,264.50	2,093,128.62	39° 59' 41.368 N	109° 23' 1.205 W
4,428.00	0.66	168.63	4,426.42	1.11	-14.08	14,528,263.70	2,093,128.85	39° 59' 41.360 N	109° 23' 1.202 W
4,519.00	1.32	157.12	4,517.41	-0.37	-13.57	14,528,262.23	2,093,129.39	39° 59' 41.345 N	109° 23' 1.195 W
4,610.00	1.20	236.44	4,608.39	-1.86	-13.95	14,528,260.73	2,093,129.03	39° 59' 41.331 N	109° 23' 1.200 W
4,700.00	1.22	228.90	4,698.37	-3.01	-15.46	14,528,259.55	2,093,127.54	39° 59' 41.319 N	109° 23' 1.220 W
4,791.00	0.70	43.10	4,789.37	-3.24	-15.81	14,528,259.31	2,093,127.19	39° 59' 41.317 N	109° 23' 1.224 W
4,882.00	0.46	81.17	4,880.37	-2.78	-15.07	14,528,259.79	2,093,127.93	39° 59' 41.322 N	109° 23' 1.215 W
4,972.00	0.36	276.96	4,970.36	-2.69	-14.99	14,528,259.88	2,093,128.00	39° 59' 41.322 N	109° 23' 1.214 W
5,063.00	1.69	346.05	5,061.35	-1.35	-15.60	14,528,261.20	2,093,127.37	39° 59' 41.336 N	109° 23' 1.221 W
5,153.00	1.32	344.54	5,151.32	0.93	-16.20	14,528,263.48	2,093,126.73	39° 59' 41.358 N	109° 23' 1.229 W
5,244.00	1.47	337.43	5,242.29	3.02	-16.93	14,528,265.55	2,093,125.97	39° 59' 41.379 N	109° 23' 1.238 W
5,334.00	1.37	331.96	5,332.26	5.04	-17.87	14,528,267.55	2,093,124.98	39° 59' 41.399 N	109° 23' 1.251 W
5,425.00	1.02	330.59	5,423.24	6.70	-18.78	14,528,269.20	2,093,124.04	39° 59' 41.415 N	109° 23' 1.262 W
5,516.00	0.74	315.31	5,514.23	7.83	-19.59	14,528,270.31	2,093,123.21	39° 59' 41.426 N	109° 23' 1.273 W
5,606.00	0.45	284.21	5,604.23	8.33	-20.35	14,528,270.80	2,093,122.45	39° 59' 41.431 N	109° 23' 1.282 W
5,697.00	0.34	224.65	5,695.23	8.22	-20.88	14,528,270.68	2,093,121.92	39° 59' 41.430 N	109° 23' 1.289 W
5,787.00	0.63	207.80	5,785.22	7.59	-21.30	14,528,270.05	2,093,121.51	39° 59' 41.424 N	109° 23' 1.295 W
5,878.00	0.70	179.29	5,876.22	6.60	-21.53	14,528,269.04	2,093,121.30	39° 59' 41.414 N	109° 23' 1.298 W
5,968.00	0.86	158.12	5,966.21	5.42	-21.27	14,528,267.87	2,093,121.58	39° 59' 41.403 N	109° 23' 1.294 W
6,059.00	0.96	156.53	6,057.20	4.09	-20.71	14,528,266.55	2,093,122.16	39° 59' 41.389 N	109° 23' 1.287 W
6,150.00	0.97	144.62	6,148.18	2.76	-19.96	14,528,265.24	2,093,122.94	39° 59' 41.376 N	109° 23' 1.277 W
6,240.00	1.17	140.79	6,238.17	1.43	-18.94	14,528,263.92	2,093,123.98	39° 59' 41.363 N	109° 23' 1.264 W
6,331.00	0.72	101.18	6,329.16	0.60	-17.79	14,528,263.11	2,093,125.15	39° 59' 41.355 N	109° 23' 1.250 W
6,421.00	0.77	123.48	6,419.15	0.15	-16.73	14,528,262.69	2,093,126.21	39° 59' 41.351 N	109° 23' 1.236 W
6,512.00	0.68	123.87	6,510.14	-0.49	-15.77	14,528,262.07	2,093,127.18	39° 59' 41.344 N	109° 23' 1.224 W
6,602.00	0.71	146.47	6,600.14	-1.25	-15.02	14,528,261.32	2,093,127.95	39° 59' 41.337 N	109° 23' 1.214 W
6,693.00	0.47	342.61	6,691.13	-1.36	-14.82	14,528,261.21	2,093,128.15	39° 59' 41.336 N	109° 23' 1.211 W
6,784.00	0.22	27.69	6,782.13	-0.85	-14.85	14,528,261.72	2,093,128.11	39° 59' 41.341 N	109° 23' 1.212 W

**Company:** ANADARKO PETROLEUM CORP.  
**Project:** UINTAH COUNTY, UTAH (nad 27)  
**Site:** NBU 922-36G PAD  
**Well:** NBU 922-36G1T  
**Wellbore:** NBU 922-36G1T  
**Design:** NBU 922-36G1T ACTUAL

**Local Co-ordinate Reference:** Well NBU 922-36G1T  
**TVD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**MD Reference:** KB @ 4974.00ft (PROD RIG KB)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db

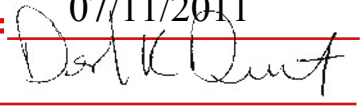
**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,874.00	1.35	325.85	6,872.12	0.18	-15.37	14,528,262.74	2,093,127.58	39° 59' 41.351 N	109° 23' 1.218 W
6,965.00	0.93	324.00	6,963.11	1.66	-16.40	14,528,264.20	2,093,126.51	39° 59' 41.365 N	109° 23' 1.232 W
7,055.00	0.56	309.16	7,053.10	2.53	-17.17	14,528,265.06	2,093,125.73	39° 59' 41.374 N	109° 23' 1.242 W
7,146.00	0.06	347.03	7,144.10	2.86	-17.53	14,528,265.38	2,093,125.37	39° 59' 41.377 N	109° 23' 1.246 W
7,237.00	0.19	223.53	7,235.10	2.80	-17.64	14,528,265.32	2,093,125.25	39° 59' 41.377 N	109° 23' 1.248 W
7,327.00	0.44	160.03	7,325.09	2.36	-17.63	14,528,264.88	2,093,125.28	39° 59' 41.372 N	109° 23' 1.248 W
7,418.00	0.75	140.53	7,416.09	1.58	-17.13	14,528,264.10	2,093,125.79	39° 59' 41.365 N	109° 23' 1.241 W
7,508.00	1.88	5.03	7,506.08	2.59	-16.63	14,528,265.13	2,093,126.27	39° 59' 41.375 N	109° 23' 1.235 W
7,599.00	1.38	0.66	7,597.04	5.17	-16.48	14,528,267.71	2,093,126.37	39° 59' 41.400 N	109° 23' 1.233 W
7,689.00	1.00	12.28	7,687.02	7.03	-16.30	14,528,269.57	2,093,126.52	39° 59' 41.418 N	109° 23' 1.230 W
7,780.00	0.88	6.03	7,778.01	8.50	-16.06	14,528,271.04	2,093,126.73	39° 59' 41.433 N	109° 23' 1.227 W
7,871.00	0.38	345.03	7,869.00	9.48	-16.06	14,528,272.03	2,093,126.71	39° 59' 41.443 N	109° 23' 1.227 W
7,961.00	0.63	276.03	7,959.00	9.82	-16.63	14,528,272.36	2,093,126.14	39° 59' 41.446 N	109° 23' 1.235 W
8,026.00	0.63	251.35	8,023.99	9.75	-17.33	14,528,272.27	2,093,125.44	39° 59' 41.445 N	109° 23' 1.244 W
EXT.TD									
8,078.00	0.63	251.35	8,075.99	9.56	-17.87	14,528,272.08	2,093,124.90	39° 59' 41.444 N	109° 23' 1.251 W

**Survey Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,078.00	8,075.99	9.56	-17.87	EXT.TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22650
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 922-36G1T
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1812 FNL 1512 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047503930000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 6/28/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input checked="" type="checkbox"/> <b>CASING REPAIR</b>  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <span style="border: 1px solid black; padding: 2px;">Wellhead Repair</span> </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedure for the proposed repair work on the subject well location.		
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 07/11/2011 <b>By:</b> 		
<b>NAME (PLEASE PRINT)</b> Gina Becker		<b>PHONE NUMBER</b> 720 929-6086
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst II  <b>DATE</b> 6/28/2011

**WORKORDER #:**

**Name:** NBU 922-36G1T - [922-36G PAD]  
**Surface Location:** SWNE Sec. 36, T9S, R22E  
 Uintah County, UT

6/23/2011

**API:** 4304750393      **LEASE#:** ML-22650

**ELEVATIONS:** 4965' GL      4973' KB

**TOTAL DEPTH:** 8765'      **PBTD:** 8701'

**SURFACE CASING:** 9 5/8", 36# J-55 @ 2073'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 @ 8746'  
 TOC @ Surface per CBL

**PERFORATIONS:** Mesaverde 6720' - 8706'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02171	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.0155
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
<b>Annular Capacities</b>						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01

**GEOLOGICAL TOPS:**

1179' Green River  
 1831' Mahogany  
 4387' Wasatch  
 6560' Mesaverde

## **NBU 922-36G1T- WELLHEAD REPAIR PROCEDURE**

### **PREP-WORK PRIOR TO MIRU:**

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

### **WORKOVER PROCEDURE:**

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure ).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. POOH w/ tubing laying down extra tubing.
5. Rig up wireline service. RIH and set CBP @ ~6670'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.
6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

### **CUT/PATCH PROCEDURE:**

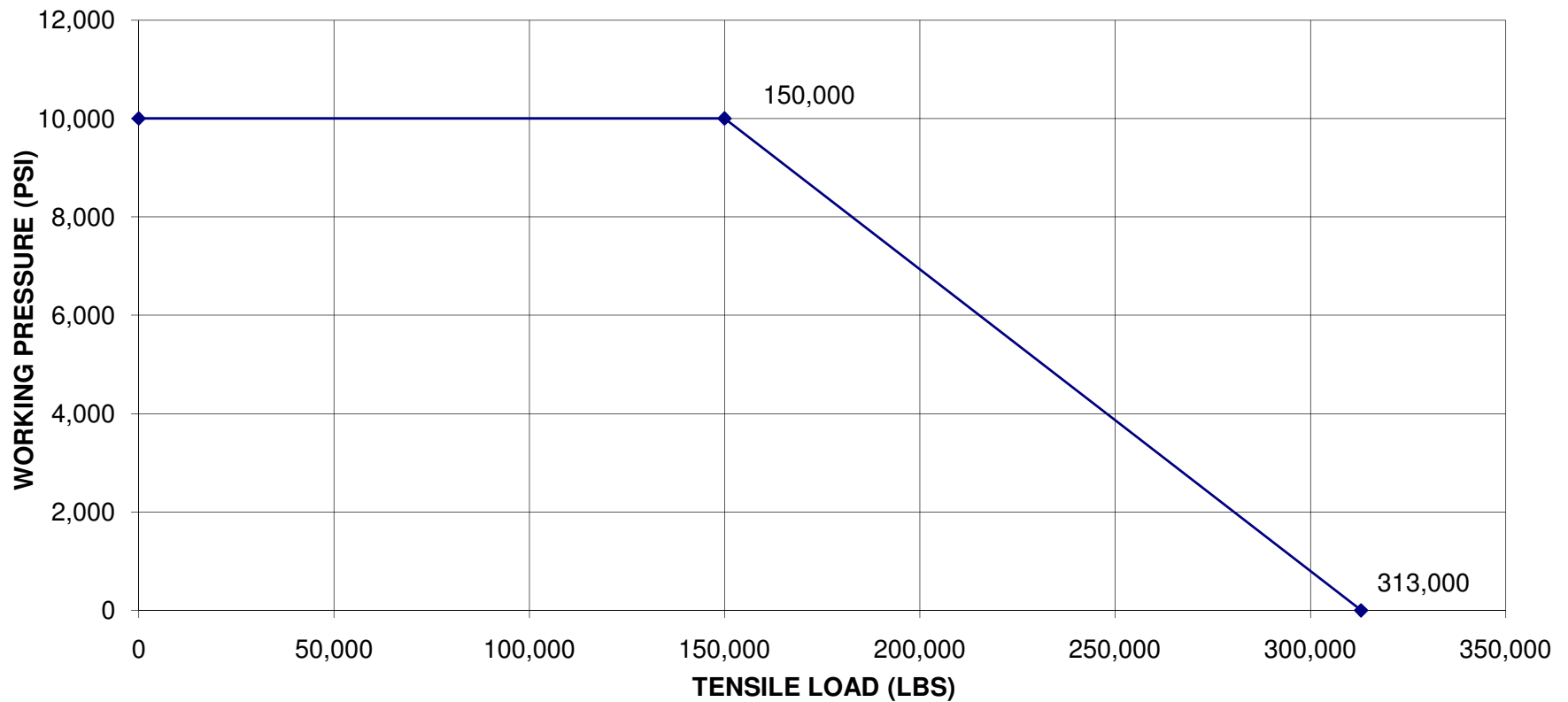
1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. POOH, LD cutters and casing.
3. PU 7 3/8" overshot with 4 1/2" right hand standard wicker grapple, 1 - 4 3/4" drill collar with 3 1/2" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshot, POOH, and lay down.
4. TIH w/ skirted mill and dress off the fish top for approximately 1/2 hour. TOOH.
5. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 3500 psi.
7. Install slips. Land casing w/ 80,000# tension.
8. Cut-off and dress 4 1/2" casing stub.
9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6620'. Clean out to PBTD (8701').
10. POOH, land tbg and pump off POBS.
11. NUWH, RDMO. Turn well over to production ops.

### **BACK-OFF PROCEDURE:**

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 1/2" overshot. RIH, latch fish. Pick string weight to neutral.
4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
5. Back-off casing, POOH.

6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to  $\pm 7000$  ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place  $\pm 7000$  ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 3500 psi.
8. Install slips. Land casing w/ 80,000# tension.
9. Cut-off and dress 4 1/2" casing stub.
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6620'. Clean out to PBTD (8701').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.

**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH  
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L  
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:  
11,222 PSI @ 0 TENSILE  
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:  
Tensile Strength w/ 0 Int. Press.= 472,791lbs.  
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

**RECEIVED** Jun. 28, 2011



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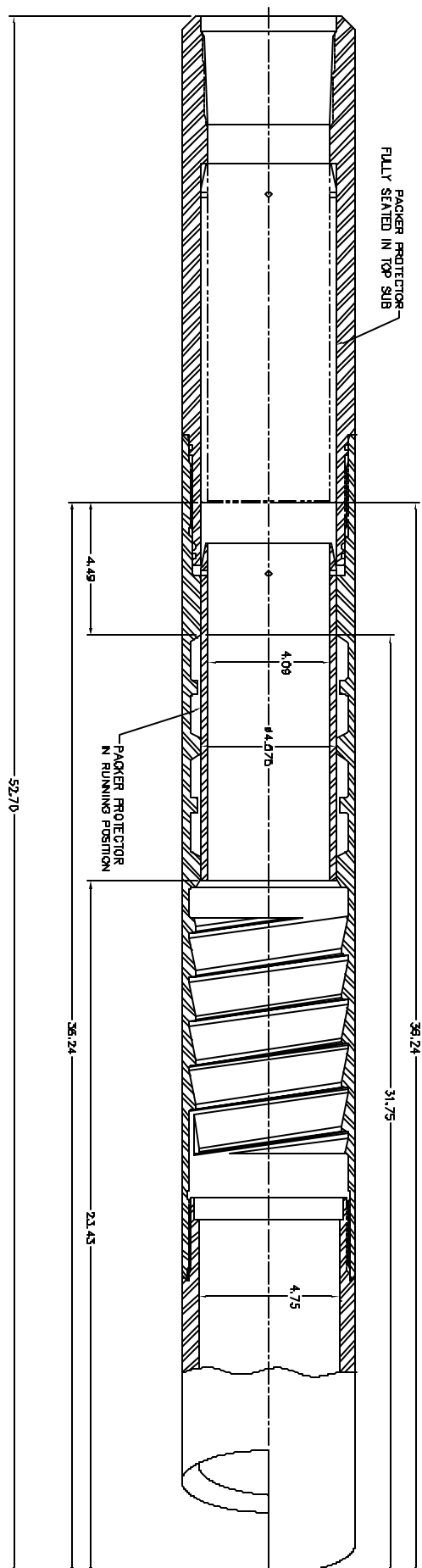
## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

510L-005-001 4-1/2" LOGAN HP CASING PATCH



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML 22650
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 922-36G1T
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1812 FNL 1512 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047503930000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 8/25/2011	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input checked="" type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>	
<input type="checkbox"/> DRILLING REPORT Report Date:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. The operator has concluded the wellhead/casing repairs on the subject well location. Please see the attached chronological history for the details of the operations.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> January 24, 2012		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/24/2012	

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 922-36G1T [BLUE]				Spud Conductor: 7/31/2009				Spud Date: 8/5/2009				
Project: UTAH-UINTAH				Site: NBU 922-36G PAD					Rig Name No: SWABBCO 6/6			
Event: WELL WORK EXPENSE				Start Date: 8/23/2011						End Date: 8/25/2011		
Active Datum: RKB @4,977.00ft (above Mean Sea Leve				UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/1,812.00/E/0/1,512.00/0/0								
Date		Time Start-End		Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
8/23/2011		7:00 - 7:15		0.25	WO/REP	48		P		JSA= WELL CONTROL		
		7:15 - 15:00		7.75	WO/REP	30		P		FWP= 100# CONT WELL ND WELLHEAD NU BOPS RU FLOOR & TUB EQUIP CONT TUB POOH W/ 265 JNTS LD BHA RU W/L RIH TO 6700' W/ GUAGE RNG POOH PU 10K CIBP RIH SET @ 6670' PU DUMP BAILER RIH DUMP 2 SKS CEN ON PLG RD W/L FILL HOLE W/ TMAC PRESS TEST TO 500# SIW PREP TO REPAIR W/H IN AM SDFN		
8/24/2011		7:00 - 7:15		0.25	WO/REP	48		P		JSA= FISHING SAFETY		
		7:15 - 17:00		9.75	WO/REP	30		P		SIW =0 PSI PU INT CUTTER RIH CUT CSG BELOW PUP ND CAMERON W/H RUN PLUMB BOB DWN TAG @ 11' PU LOGAN CSG PATCH RIH OVER CSG PULL 90000# NU TESTER & TEST TO 3500# SET SLIPS & NU WELLHEAD & BOPS RU FLOOR & TUBING EQUIP PU 3-7/8" BIT RIH TAG TOC @ 6650' PREP TO D/O IN AM SIW SDFN		
8/25/2011		7:00 - 7:15		0.25	WO/REP	48		P		JSA= PRESS CONTROL		
		7:15 - 17:00		9.75	WO/REP	30		P		SIWP= 0 PSI EST CIRC W/ FOAMER C/O & DRILL THRU CEM & CIBP @ 8670' CONT TO RIH TAG FILL @ 8670' EST CIRC C/O TO PBTD @8701'CIRC CLEAN POOH LD 11 JNTS POOH LD BIT PU NOTCHED 1.87XN NPL RIH LAND TUB ON HNCR W/ 265 JNTS EOT @ 8359.20' RIH W/ BROACH TO S/N RD FLOOR & TUBING EQUIP ND BOPS NU W/H RD RIG MOVE TO NBU 922-36M PAD		

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6100

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750391	NBU 922-36H2DS		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	7/31/2009			<u>8/13/09</u>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 07/31/2009 AT 08:30 HRS. <u>BHL = SENE</u>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750392	NBU 922-36H2AS		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	7/31/2009			<u>8/13/09</u>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 07/31/2009 AT 10:30 HRS. <u>BHL = SENE</u>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750393	NBU 922-36G1T		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	7/31/2009			<u>8/13/09</u>	
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 07/31/2009 AT 12:45 HRS.							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

8/3/2009

Date

**RECEIVED**

AUG 03 2009

DIV. OF OIL, GAS & MINING